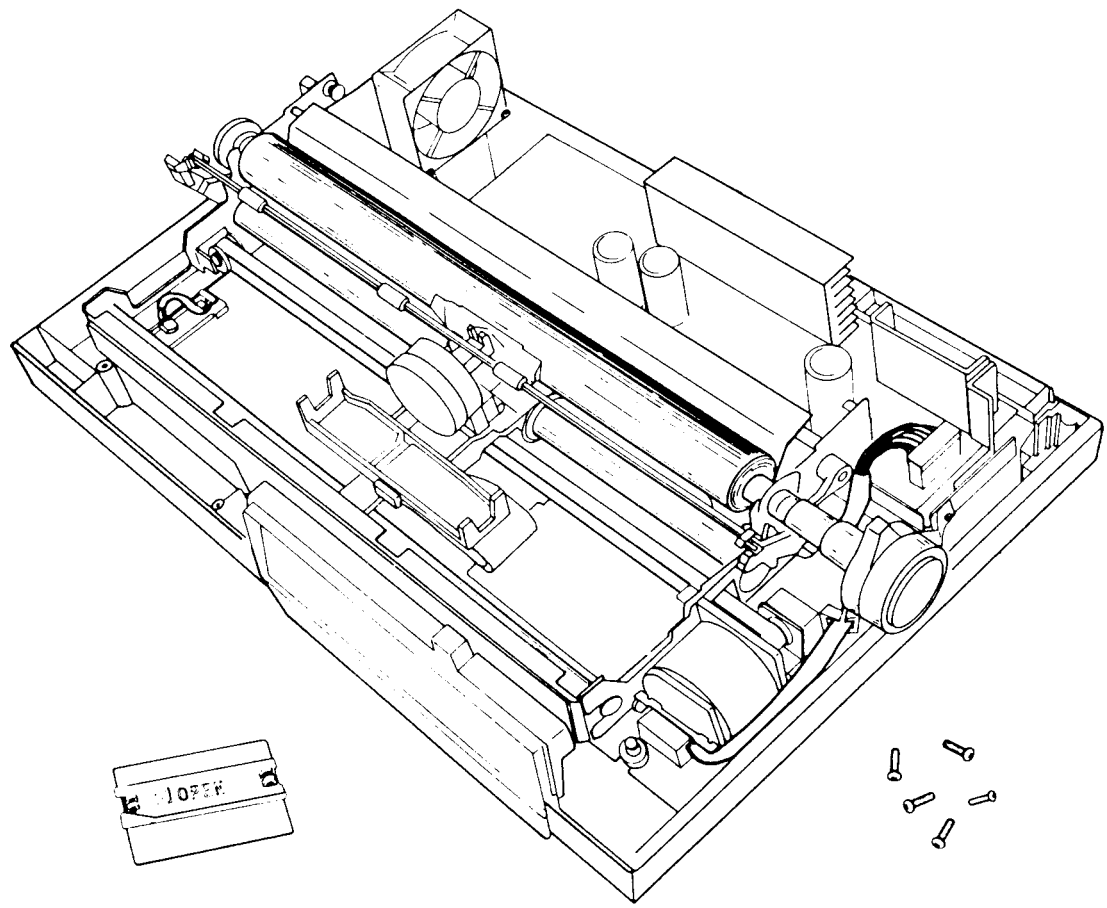
NEC



pinwriter P5 Series
Maintenance Guide

808-866135-900-A Rev.00
7-87

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Manufacturer's Instructions and User's Responsibility to Prevent Radio Frequency Interference

Manufacturer's Instructions

The user must observe the following precautions in installing and operating this device:

1. Operate the equipment in strict accordance with the manufacturer's instructions for the model.
2. Plug the unit into a properly grounded wall outlet and use the power cord supplied with the unit, unmodified.
3. Always operate the unit with the factory-installed cover on the unit.
4. Make no modification to the equipment which would affect its meeting the specified limits of the Rules.
5. Maintain the equipment in a satisfactory state of repair.
6. Use a shielded and properly grounded I/O cable to ensure compliance of this unit to the specified limits of the Rules.

User's Responsibility

The user is ultimately responsible for correcting problems that arise from harmful radio-frequency emissions from equipment under his control. If this equipment does cause interference to radio or television reception (which can be determined by turning the equipment off and on), the user is encouraged to try to correct the interference by one of the following measures. All of these responsibilities and any others not mentioned are exclusively at the expense of the user.

1. Change in orientation of the receiving device antenna.
2. Change in orientation of the equipment.
3. Change in location of equipment.
4. Change in equipment power source.

If these attempts are unsuccessful, install one or all of the following devices:

1. Line isolation transformers
2. Line filters
3. Electro-magnetic shielding

If necessary, the user should consult the dealer, NEC, or an experienced radio/television technician for additional suggestions.

NOTE

The operator of a computing device may be required to stop operating his device upon finding that the device is causing harmful interference and it is in the public interest to stop operation until the interference problem has been corrected.

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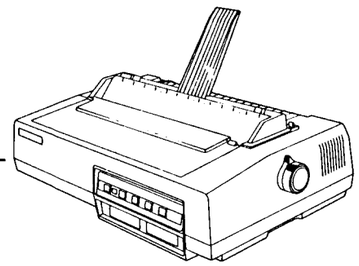
Abbreviations

AC	alternating current
CG	character generator
CN	connector
cps	characters per second
CPU	central processing unit
DC	direct current
FET	field-effect transistor
HP	home position
HS	high speed
in.	inches
IPB	illustrated parts breakdown
KB	kilobytes
LF	line feed
LQ	letter quality
mm	millimeters
MPU	master microprocessing unit
PCB	printed circuit board
PWM	pulse width modulation
RAM	random access memory
ROM	read only memory
SG	signal ground
SP	spacing
SW	switch
V	volts

Section 1

General Description



The Pinwriter P5 (see Figure 1-1) is a low-noise, dot-matrix printer with exceptional print quality. In high-speed mode it prints 290 characters per second (cps), in draft mode it prints 240 cps, and in letter-quality mode it prints 100 cps.

The printer can be divided into the following major subassemblies (see Figure 1-2):

- Main Board
- Mechanical Assembly
- Operator Controls
- Cartridge Options
- Optional RS-232C Interface
- Power Supply

These subassemblies, as well as the operation of the cut sheet guide, are explained here.

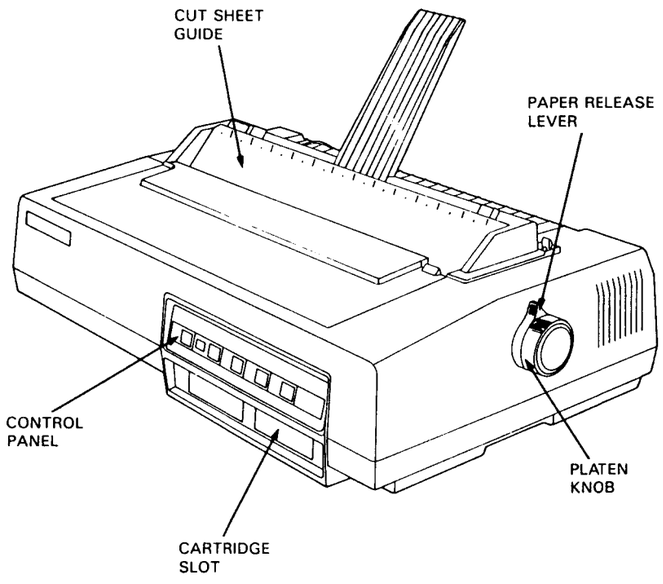


Figure 1-1 Pinwriter P5 Features

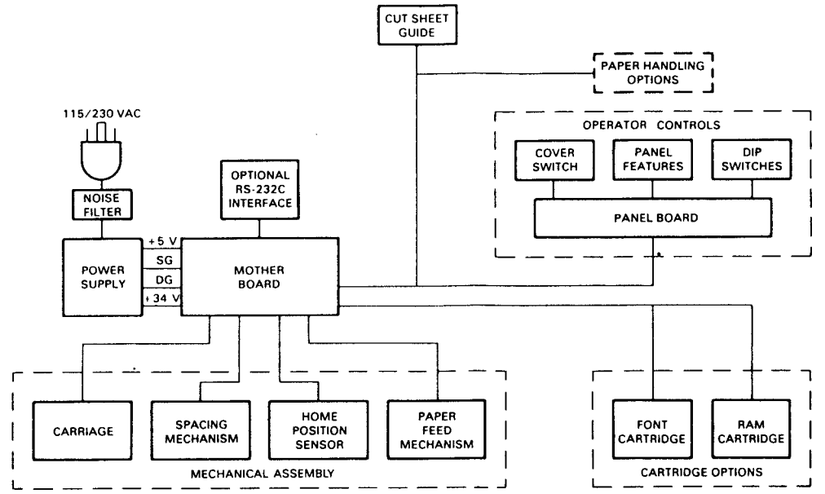


Figure 1-2 Pinwriter P5 Block Diagram

MOTHER BOARD

The major features of the mother board, which are described in the following sections, are the master microprocessing unit (MPU) circuit and the slave MPU circuit.

Master MPU Circuit

The master MPU circuit is the ultimate control for all printer functions. It can be divided into the following major areas (see Figure 1-3):

- Memory
- Parallel Latch
- Interface

MEMORY

Printer memory consists of both Random Access Memory (RAM) and Read Only Memory (ROM). Only the two major types of RAM are described here — the image RAM and the receive buffer RAM. Both the program ROM and the character generator (CG) ROM are also described.

The image RAM enables high-speed operation of the printing, backspace, delete, and cancel functions. It stores the image to be printed in the form of a bit pattern. Bank switching is used to enlarge the effective image RAM area. The 8 kilobyte (KB) receive buffer RAM stores the data received by the interface circuit.

The 32 KB program ROM (UPD27256) contains the program that controls master MPU operation. The 96 KB (32 KB x 3) standard CG ROMs contain the resident character sets of the printer.

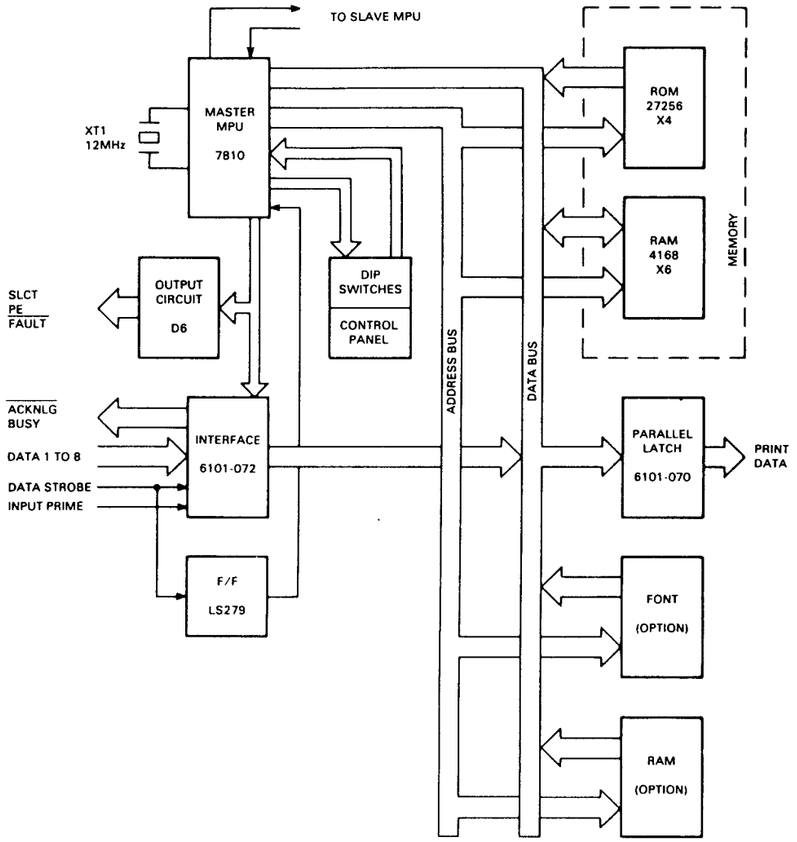


Figure 1-3 Master MPU Circuit Simplified Block Diagram

Optional font and RAM cartridges can be added to extend the capacities of the receive buffer RAM and/or the CG ROM to a maximum total (receive buffer RAM + CG ROM) of 240 KB.

PARALLEL LATCH

The parallel latch moves the bit image information from the image RAM to the print head driver. This information is then used as data for the printing operation.

INTERFACE

The printer has a standard, Centronics-compatible, parallel interface. The pin assignments are listed in Table 1-1.

Table 1-1 Parallel Interface Pin Assignments

SIGNAL PIN	RETURN PIN	SIGNAL	DIRECTION	DESCRIPTION
1	19	$\overline{\text{Strobe}}$	To printer	Strobes a data byte to the printer. The minimum pulse width of the signal is 1 μs, normally active low.
2	20	Data 1	To printer	Data lines 1 to 8 transmit ASCII code. The lines are high (true) at logic 1 and low (false) at logic 0.
3	21	Data 2		
4	22	Data 3		
5	23	Data 4		
6	24	Data 5		
7	25	Data 6		
8	26	Data 7		
9	27	Data 8		
10	28	$\overline{\text{Acknlg}}$	From printer	An 8 μs pulse on this status line indicates that the printer received a data byte and it can receive another.
11	29	Busy	From printer	This signal goes high when the printer is busy because • the buffer is full, or • it is initializing, or • it is deselected, or • a printer fault has occurred.
12	30	Paper Empty	From printer	This status line goes high when the printer is out of paper.
13	—	Slct	From printer	This status line goes high when the printer is selected. The line is low when the printer is deselected.
14	—	$\overline{\text{Auto}}$ Feed XT	To printer	When this line is low, the printer performs an automatic line feed after each line.
15	—	—	—	Unused.
16	—	—	—	Unused.
17	—	FG	—	Frame ground.

Table 1-1 Parallel Interface Pin Assignments (cont'd)

SIGNAL PIN	RETURN PIN	SIGNAL	DIRECTION	DESCRIPTION
18	—	+5V (Direct)	—	Unused.
19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30	—	Gnd	—	Ground. Pins 19-27 are ground for data 1-8, pin 28 is ground for Acknlg, pin 29 is ground for Busy, and pin 30 is ground for Input Prime.
31	—	$\overline{\text{Input Prime}}$	To printer	A low on this line initializes the printer. The signal pulse width must be more than 15 μs.
32	—	$\overline{\text{Fault}}$	From printer	This line goes low when the printer is • out of paper • deselected • in a fault state.
33	—	SG	—	Signal ground.
34	—	—	—	Unused.
35	—	+5V	—	Unused.
36	—	$\overline{\text{Slct In}}$	To printer	When this line goes low, the printer overrides DC3 (deselect) codes.

Slave MPU Circuit

The slave MPU is connected to the master MPU by a serial interface. Communication between MPUs takes place in asynchronous, full-duplex mode. The slave MPU receives commands from the master MPU and returns status information. The slave MPU controls the print head, spacing, and line feed driver circuits of the printer (see Figure 1-4).

MECHANICAL ASSEMBLY

The mechanical assembly contains the subassemblies that perform the printing, spacing, and paper feeding operations. It consists of the carriage, spacing mechanism, home position sensor, and paper feed mechanism.

Carriage

The carriage contains the print head and ribbon feed mechanism; it supports the card holder and ribbon cartridge (see Figure 1-5). It is attached by slide bearings to two guide shafts. One of the guide shafts is eccentric so that, by turning the shaft, the gap between the platen and the tip of the print head can be adjusted (see Figure 1-6).

The print head and ribbon feed mechanism are further explained in the following sections.

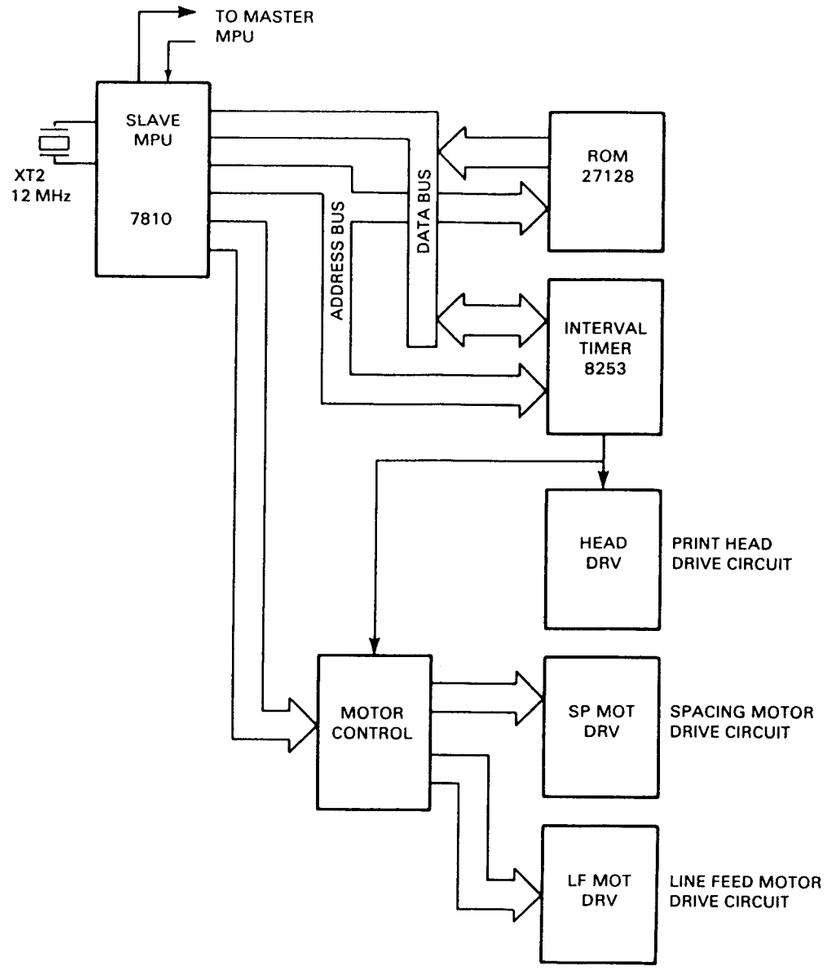


Figure 1-4 Slave MPU Circuit Block Diagram

PRINT HEAD

The print head (see Figure 1-7) has the following components:

- a magnetic circuit consisting of an annular permanent magnet, 24 electromagnets, and 24 armatures;
- 24 print wires, each attached to an armature;
- a print wire guide, located at the tip of the print head, that arranges the print wires into two staggered rows of 12 wires each;
- guide plates that support the middle of the print wires.

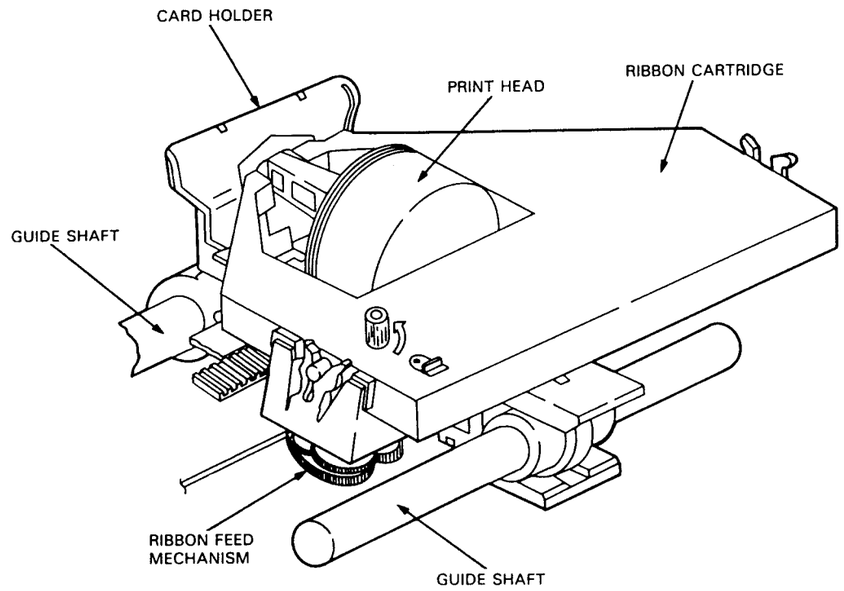


Figure 1-5 Carriage

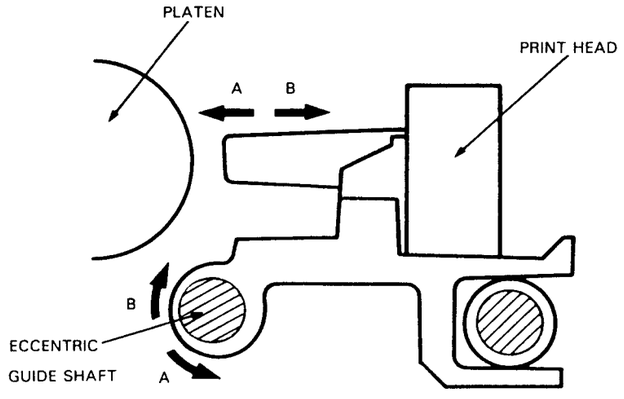


Figure 1-6 Print Head Adjustment

When no printing is taking place, each armature is held in its resting position by the force of the permanent magnet. When a particular electromagnet is energized, its armature starts to move towards the platen. This action drives a print wire into the ribbon, paper, and platen, thereby printing a dot on the paper.

After printing a dot, the recoil of the print wire off the platen and the force of the permanent magnet return the print wire to its resting position.

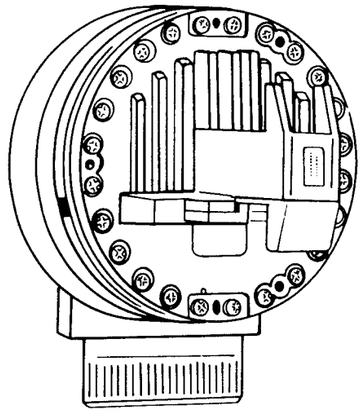


Figure 1-7 Print Head

RIBBON FEED MECHANISM

The ribbon feed mechanism (see Figure 1-8) transmits the reciprocating motion of the carriage to the ribbon feed gear. The gear turns in one direction only to feed the ribbon (see Figure 1-9).

Spacing Mechanism

The spacing mechanism consists of the spacing (SP) motor, the SP motor pulley, the SP belt, the tension bracket, the support plate, and the two carriage guide shafts (see Figure 1-10). The SP motor turns the SP belt, which moves the carriage. The driven pulley and support plate hold the other end of the belt. The tension bracket is part of the assembly to adjust the SP belt tension.

Home Position Sensor

The home position (HP) sensor, a Hall-effect sensor that is located on the frame at the far left side of the carriage (see Figure 1-11), detects a magnet mounted on the carriage. When power is applied to the printer and this magnet is not detected, the print head moves to its home position.

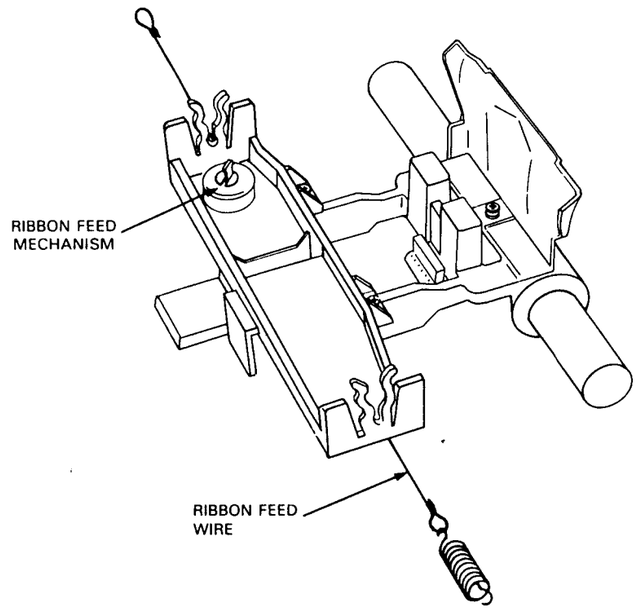


Figure 1-8 Ribbon Feed Mechanism

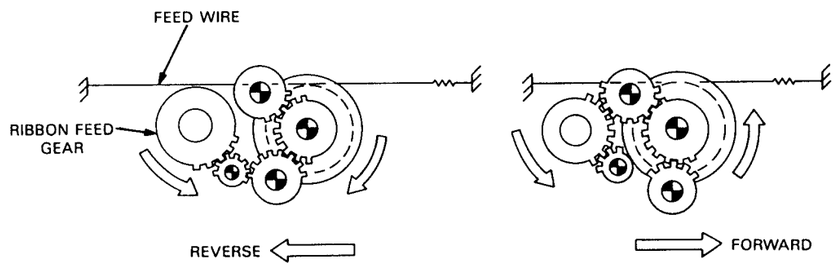


Figure 1-9 Ribbon Feed Gear Movements

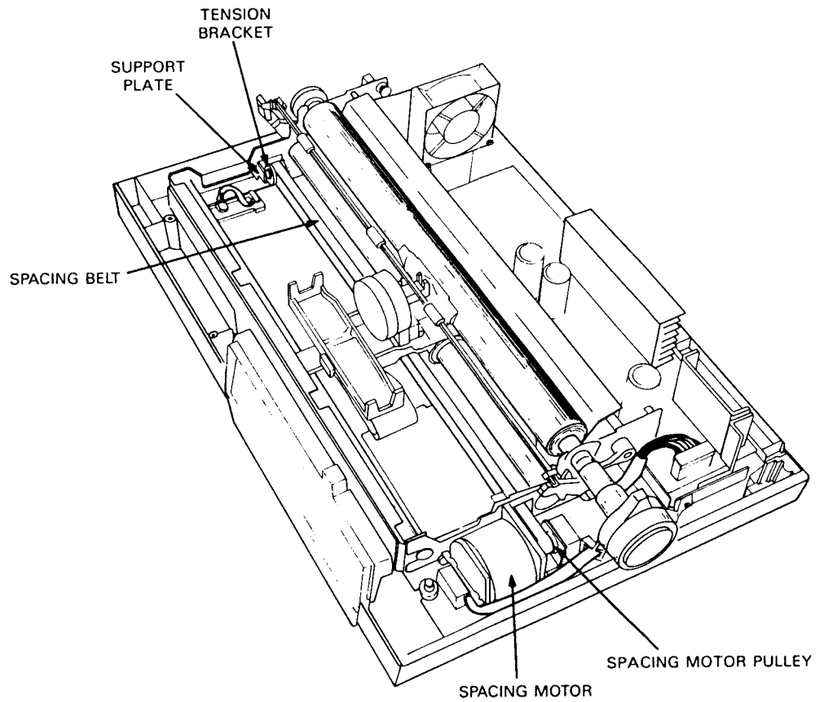


Figure 1-10 Spacing Mechanism

Paper Feed Mechanism

The paper feed mechanism consists of the line feed (LF) motor, the LF motor gear, intermediate gears, the platen gear, and the platen (see Figure 1-12). The LF motor is a stepper motor. Movement of the LF motor is transmitted to the platen through the gears. One step of the motor equals 1/360-inch of paper movement.

CONTROL PANEL

The control panel's switches and lamps allow the user to control the printer and observe its status (see Figure 1-13). The FONT button displays both status codes and fatal error messages to aid in diagnosing printer malfunctions.

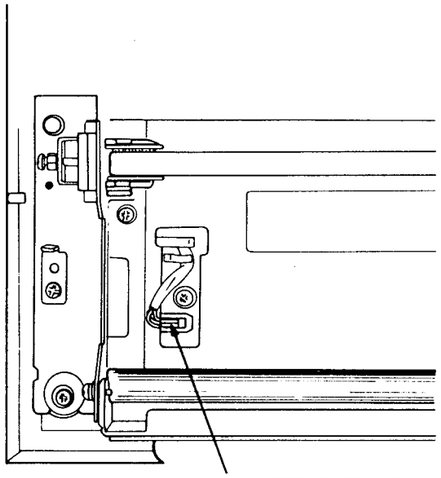


Figure 1-11 Home Position Sensor

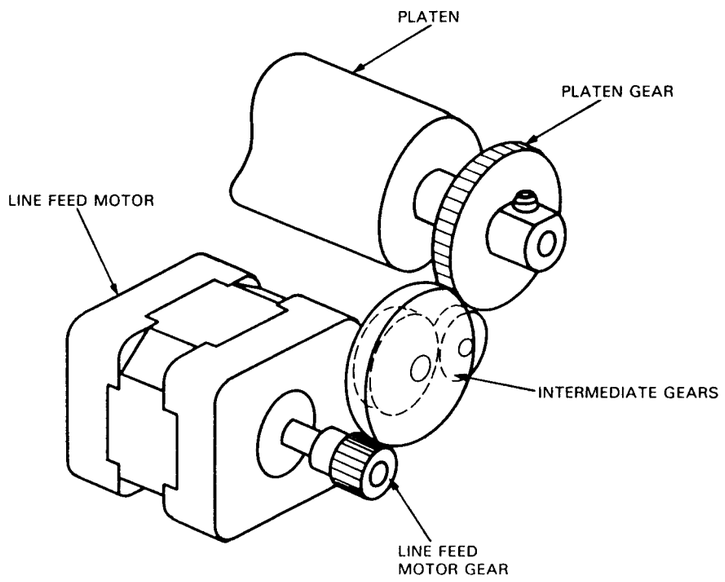


Figure 1-12 Paper Feed Mechanism

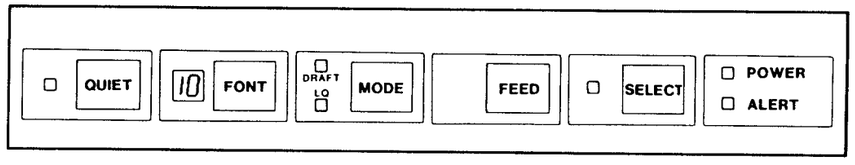


Figure 1-13 Control Panel

CARTRIDGE OPTIONS

Optional font and RAM cartridges can be inserted in the front of the printer (see Figure 1-14). Each font cartridge has a capacity of 96 KB and each RAM cartridge has a capacity of 16 KB. Depending upon the combination used, these cartridges can extend the memory capacities of the receive buffer RAM and/or the CG ROM to a maximum total of 240 KB.

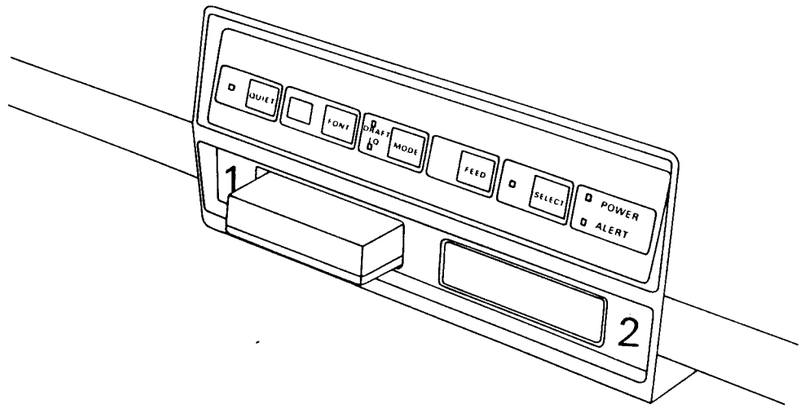


Figure 1-14 Cartridge Slots

OPTIONAL RS-232C INTERFACE

The optional RS-232C interface (see Figure 1-15) converts serial data of the RS-232C interface to parallel data of the mother board. The main components of the RS-232C interface are:

- μPD7810 MPU, which controls the operation of the RS-232C interface;
- μPD2764 ROM, which stores the program;
- μPD446 RAM, which stores received data (2 KB);
- pseudo-Centronics interface, which transfers data to the mother board;
- DC-DC converter, which converts +5 V from the power supply to $\pm$12 V to be used by the RS-232C interface driver.

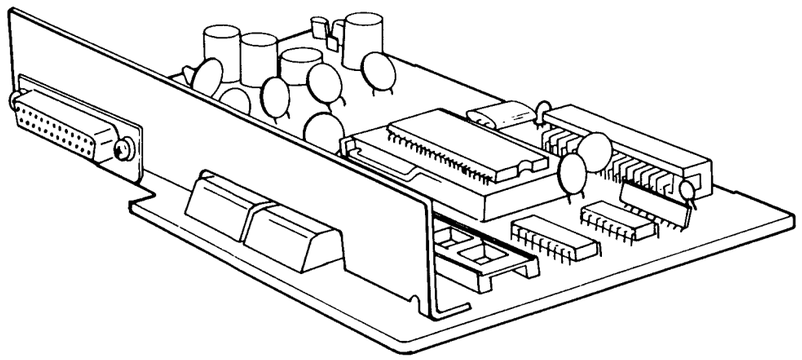


Figure 1-15 RS-232C Interface

POWER SUPPLY

The power supply board is mounted on top of the mother board. It consists of an AC input circuit, a primary rectifying and smoothing circuit, a pulse width modulation (PWM) circuit, an inverter circuit, a secondary rectifying and smoothing circuit, a +5 V control circuit, and a +34 V control circuit (see Figure 1-16).

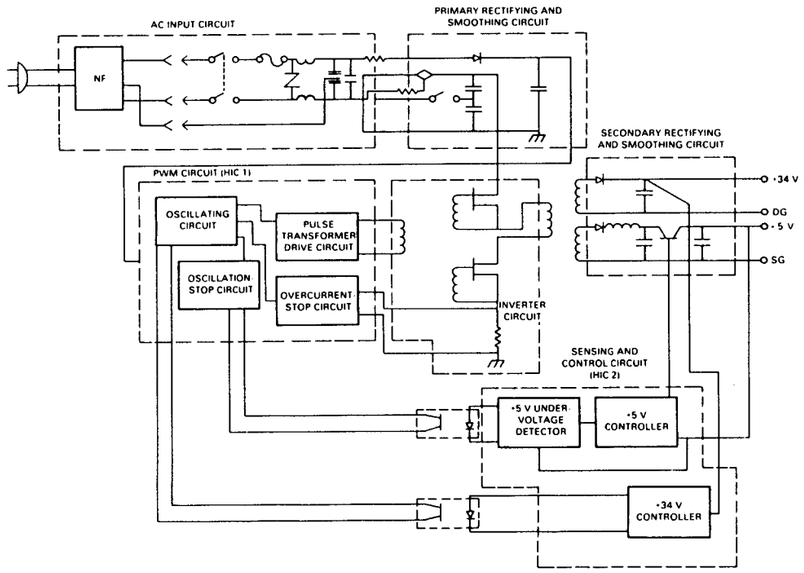


Figure 1-16 Power Supply Block Diagram

AC Input Circuit

The AC input circuit includes a power switch, a fuse, a noise filter that blocks noise in the AC lines, a varistor that absorbs impulse voltage running through the AC lines, and a thermistor that limits a current rush at power on.

Primary Rectifying and Smoothing Circuit

This circuit consists of a half-wave rectifying and smoothing circuit which supplies power to the PWM circuit when the printer is on. In addition, there are two rectifier and regulator circuits. A full-wave rectifier complies with the 230 Vac source and a voltage doubler rectifier complies with the 115 Vac source.

PWM Circuit

The PWM circuit contains an oscillator, a pulse transformer driver, an over-current stopper, and an oscillation stop circuit.

Inverter Circuit

The inverter circuit has a pulse transformer and a switching transformer. The pulse transformer divides the transmit pulse into two field-effect transistors (FETs) which switch the primary rectifying and smoothing circuit output DC voltage. The switching transformer supplies power to the secondary circuit.

Secondary Rectifying and Smoothing Circuits

The secondary rectifying and smoothing circuit consists of two circuits and a transistor for the dropper. One circuit converts the output power of the switching transformer secondary winding into +5 Vdc, and the other into +34 Vdc. The +5 V is regulated by a series pass transistor.

+5 V Control Circuit

The +5 V control circuit consists of a +5 V controller and a +5 V under-voltage detector. This circuit compares the +5 V output with the reference voltage to maintain constant output voltage.

+34 V Control Circuit

The +34 control circuit compares the +34 V output voltage with the reference voltage in order to control the pulse width of the PWM circuit output voltage through the opto-isolator.

CUT SHEET GUIDE

The cut sheet guide contains an optical element for sensing the paper, a microswitch for starting the autoloading motion, and a cable for connecting the cut sheet guide to the printer (see Figure 1-17).

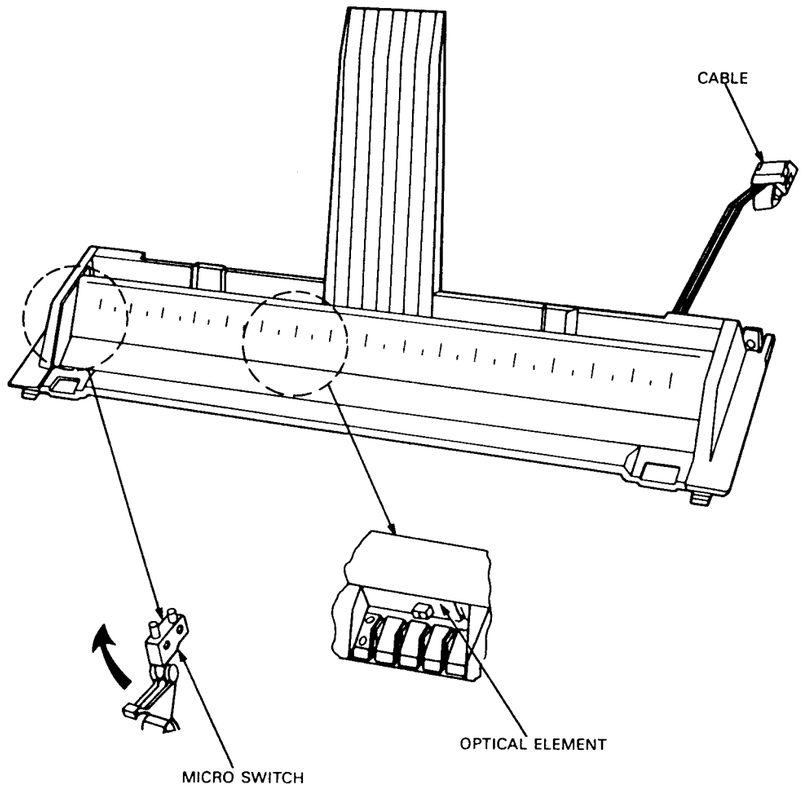
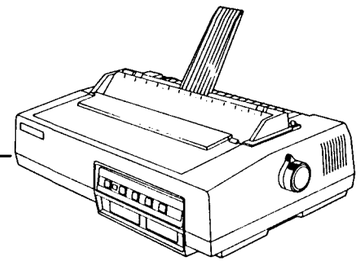


Figure 1-17 Cut Sheet Guide

Section 2

Switch Settings



The following sections describe the switch settings for both the printer and the RS-232C interface.

PRINTER SWITCH SETTINGS

The Pinwriter P5 has four banks of switches located in the rear of the printer. Switch banks 1 through 3 are operator-accessible. Switch bank 4 is for maintenance purposes and can be accessed only by removing the top cover.

Figures 2-1 to 2-4 give the factory switch settings and describe the functions of the switches.

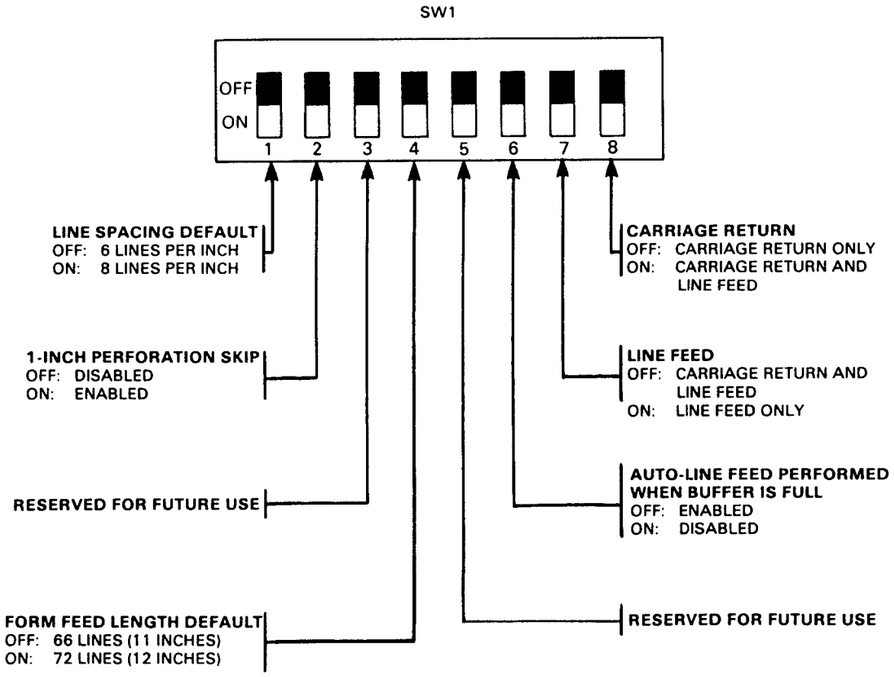


Figure 2-1 Printer Switch Settings for SW1

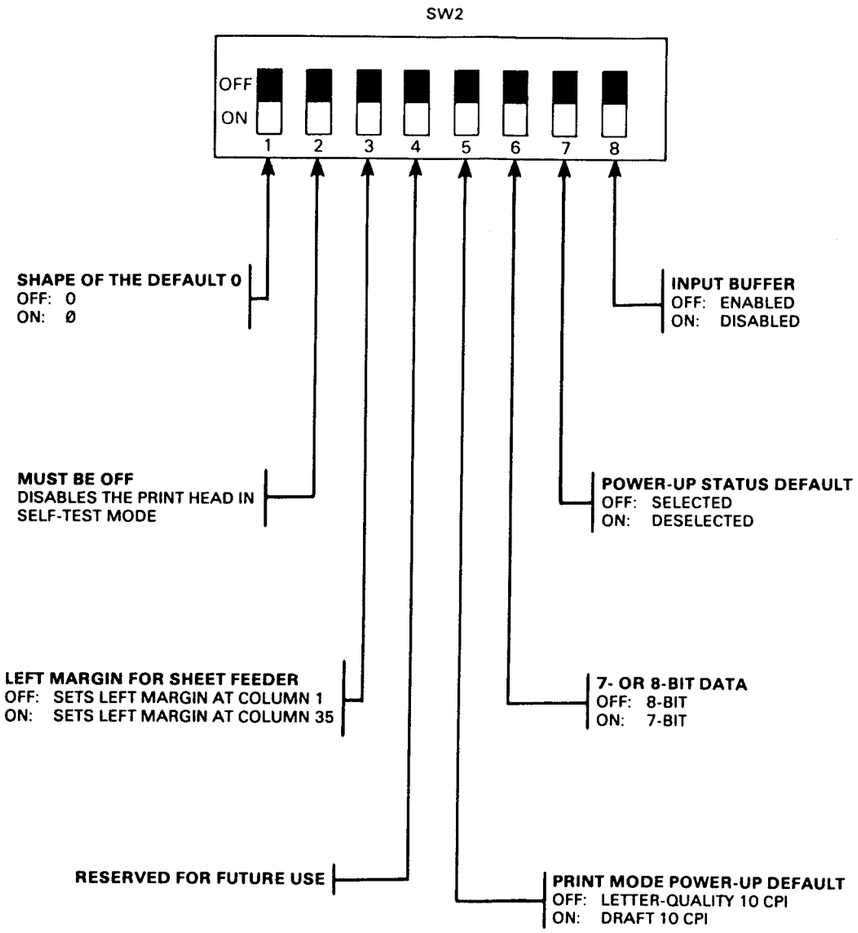
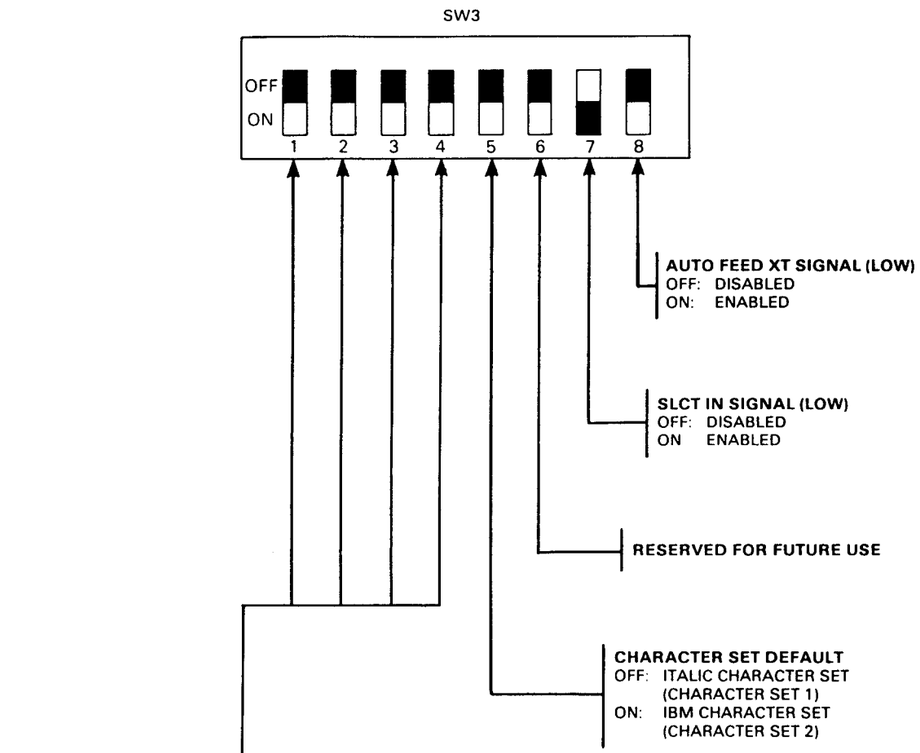
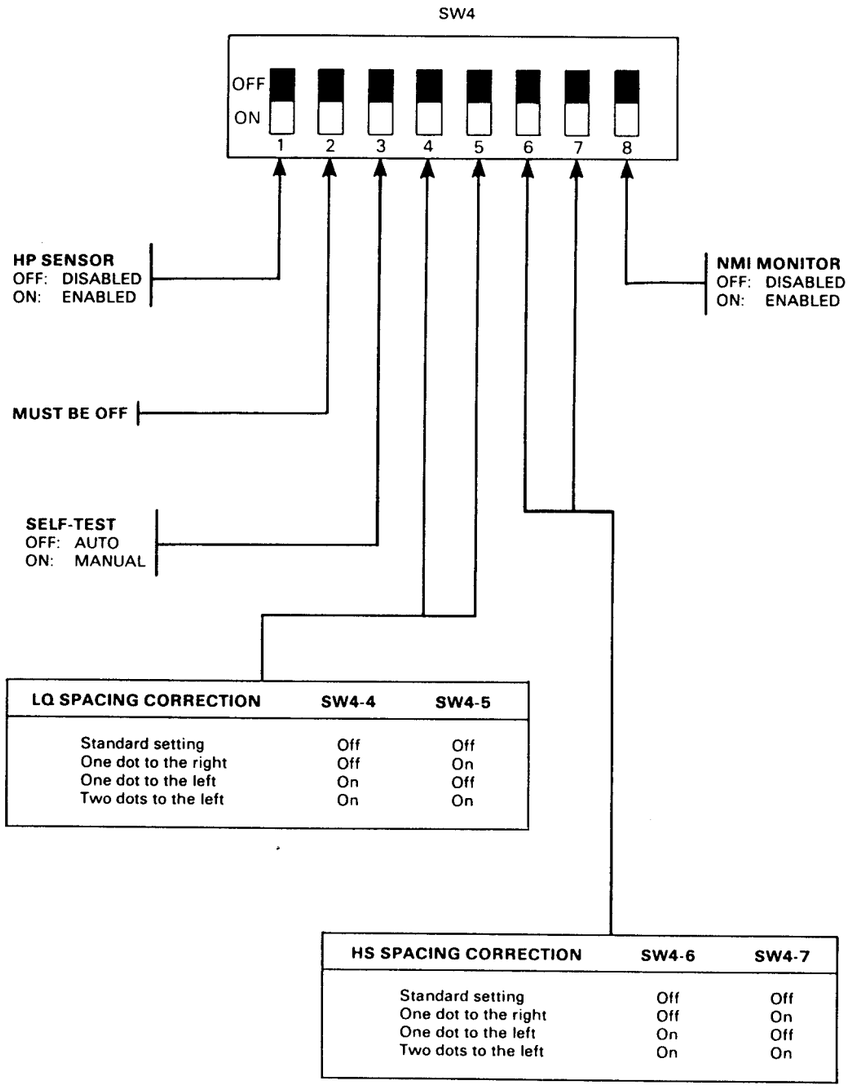


Figure 2-2 Printer Switch Settings for SW2



COUNTRY	SW3-1	SW3-2	SW3-3	SW3-4
USA	Off	Off	Off	Off
France	On	Off	Off	Off
Germany	Off	On	Off	Off
England	On	On	Off	Off
Denmark I	Off	Off	On	Off
Sweden	On	Off	On	Off
Italy	Off	On	On	Off
Spain	On	On	On	Off
Japan	Off	Off	Off	On
Norway	On	Off	Off	On
Denmark II	Off	On	Off	On
Netherlands	On	On	Off	On

Figure 2-3 Printer Switch Settings for SW3



LQ SPACING CORRECTION	SW4-4	SW4-5
Standard setting	Off	Off
One dot to the right	Off	On
One dot to the left	On	Off
Two dots to the left	On	On

HS SPACING CORRECTION	SW4-6	SW4-7
Standard setting	Off	Off
One dot to the right	Off	On
One dot to the left	On	Off
Two dots to the left	On	On

Figure 2-4 Printer Switch Settings for SW4

RS-232C INTERFACE SWITCH SETTINGS

The Pinwriter P5 has two banks of switches located on the RS-232C interface card. Factory switch settings and an explanation of switch functions follow.

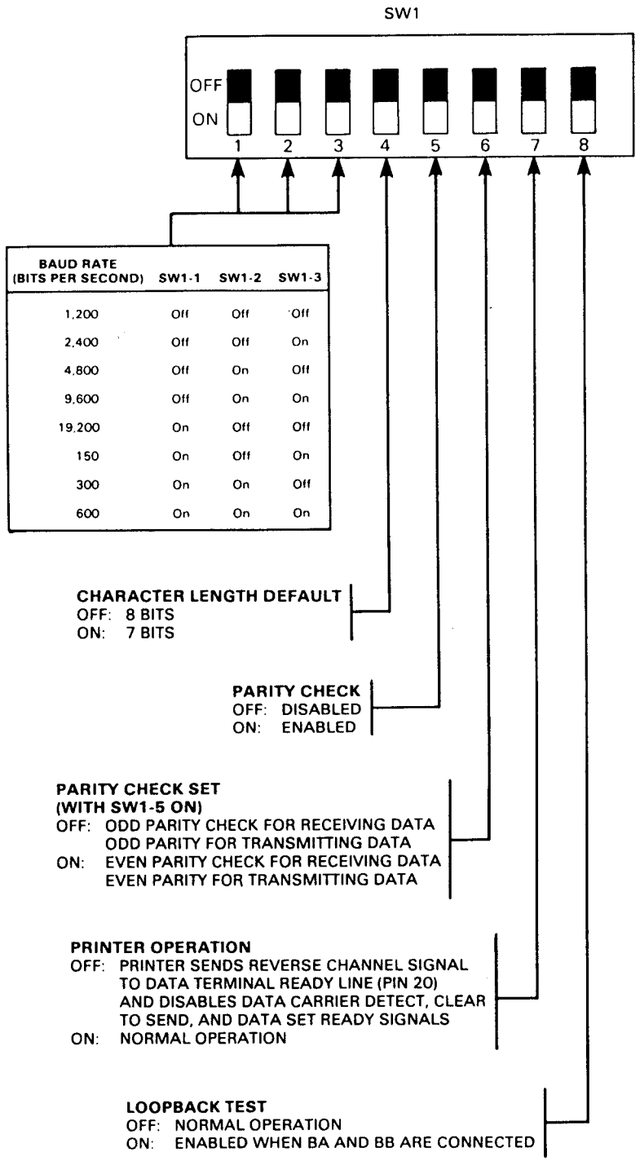

SW1
OFF
ON
1 2 3 4 5 6 7 8
BAUD RATE (BITS PER SECOND) SW1-1 SW1-2 SW1-3
1,200 Off Off Off
2,400 Off Off On
4,800 Off On Off
9,600 Off On On
19,200 On Off Off
150 On Off On
300 On On Off
600 On On On
CHARACTER LENGTH DEFAULT
OFF: 8 BITS
ON: 7 BITS
PARITY CHECK
OFF: DISABLED
ON: ENABLED
PARITY CHECK SET
(WITH SW1-5 ON)
OFF: ODD PARITY CHECK FOR RECEIVING DATA
ODD PARITY FOR TRANSMITTING DATA
ON: EVEN PARITY CHECK FOR RECEIVING DATA
EVEN PARITY FOR TRANSMITTING DATA
PRINTER OPERATION
OFF: PRINTER SENDS REVERSE CHANNEL SIGNAL
TO DATA TERMINAL READY LINE (PIN 20)
AND DISABLES DATA CARRIER DETECT, CLEAR
TO SEND, AND DATA SET READY SIGNALS
ON: NORMAL OPERATION
LOOPBACK TEST
OFF: NORMAL OPERATION
ON: ENABLED WHEN BA AND BB ARE CONNECTED

Figure 2-5 RS-232C Interface Switch Settings for SW1

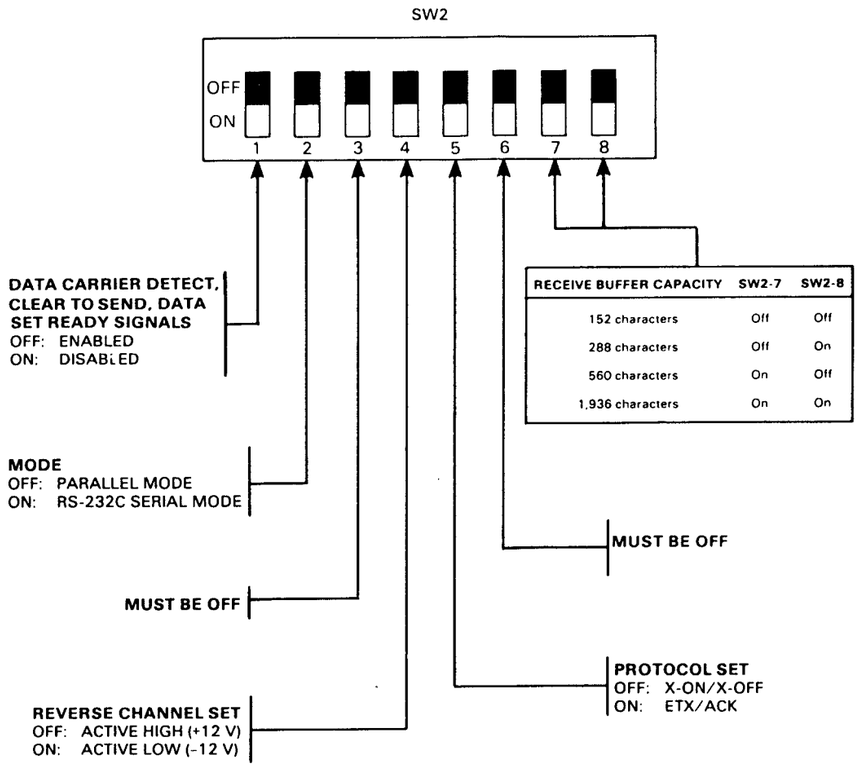
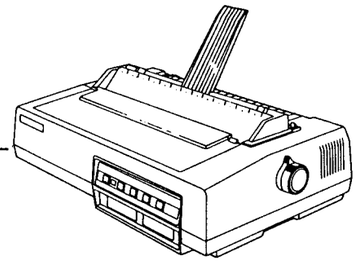


Figure 2-6 RS-232C Interface Switch Settings for SW2

Section 3

Preventive Maintenance and Lubrication



Clean and check the Pinwriter P5 at least once a year. No other scheduled maintenance or lubrication is required.

CLEANING

Inspect the entire printer for any pieces of foreign material, such as bits of paper, dust, or paper clips before performing the following cleaning procedure.

1. Using a soft, lint-free cloth, remove any dust from the guide shafts.
2. Clean the base frame under the carriage assembly.
3. Use a mild detergent to clean the cover. Use a hand cleaner to remove any stains.
4. Use NEC's Perfect Printer Plus cleaning kit to clean the platen and bail rollers.

CAUTION

Do not use platen cleaner to clean any plastic items or surfaces. Do not use alcohol to clean the cover, the platen, or any plastic surfaces.

5. Remove any pieces of paper attached to the tractor assembly and pressure bail.

CHECKING

Run self-test #4 (see Section 4, Troubleshooting) to ensure that the printer is printing correctly. Then check the following items.

- Verify that the ribbon is in good condition. Replace any ribbon that is dried out or malfunctioning.
- Be sure that the paper is of high quality and is inserted properly.
- Check the copy control lever. Adjust it if necessary.
- Inspect the printer for any accumulation of foreign materials, such as bits of paper or paper clips.

LUBRICATION

Lubricate parts only if they have been replaced or if lubricant has been removed during a repair, cleaning, or adjustment procedure. Table 3-1 lists the types of lubricants to be used. Table 3-2 gives the lubrication requirements for each point. The designation letters in Table 3-2 correspond to the letters in Figures 3-1 to 3-5. The figures show the lubrication points.

Table 3-1 Types of Lubricants

LUBRICANT	AMOUNT	LUB CODE
Daphne Colonex Grease #2	Light brush coat	G
Daphne Mechanic Oil #35	1 to 2 drops	O

Table 3-2 Lubrication Points

DESIGNATION	LOCATION	LUB CODE
A	Contact surfaces of platen shaft and platen holders. Periphery of left and right platen holders.	G
B	Surfaces of detent spring that come in contact with right side frame and copy control lever.	G
C	Oil felt of carriage frame.	O
D	Guide shafts.	O
E	Contact surfaces of right bail arm and paper release lever. Sliding surfaces between release arm and release cam.	G

CAUTION

Excessive lubrication will cause accumulation of dirt and dust.

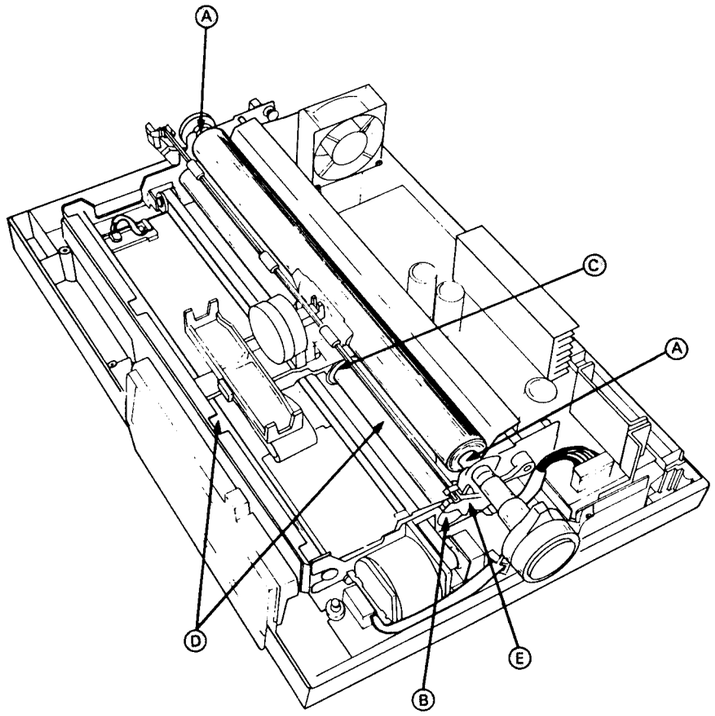


Figure 3-1 Mechanical Assembly Lubrication Points

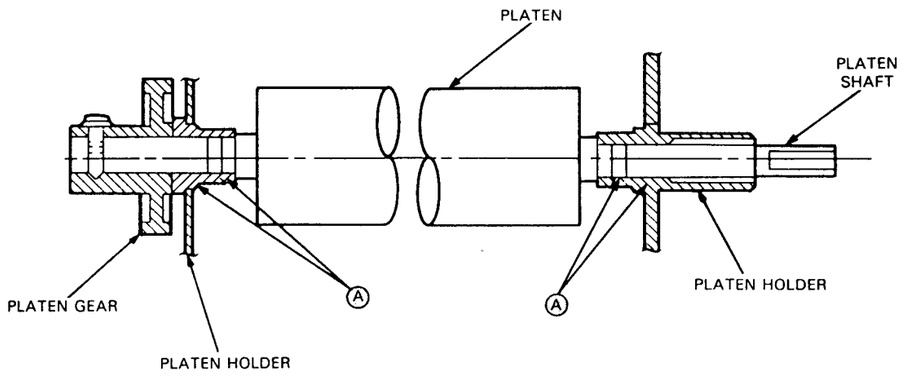


Figure 3-2 Platen Assembly Lubrication Points

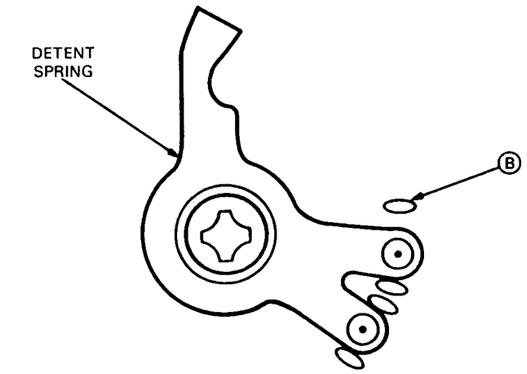


Figure 3-3 Detent Spring Lubrication Points

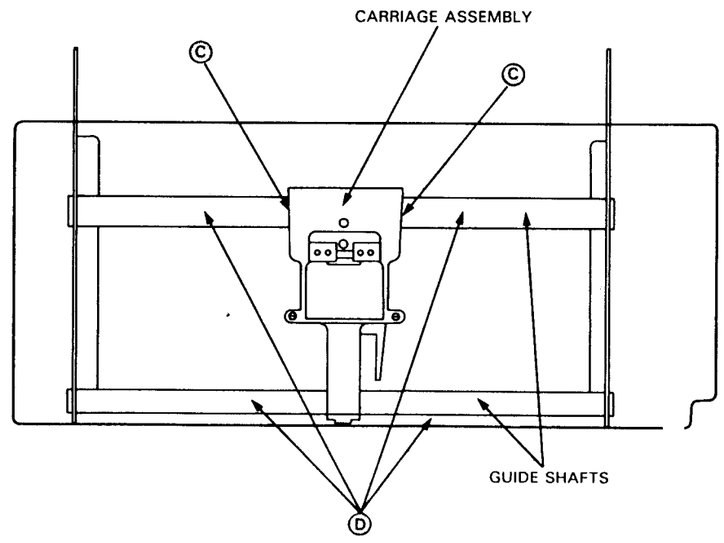


Figure 3-4 Guide Shaft and Carriage Lubrication Points

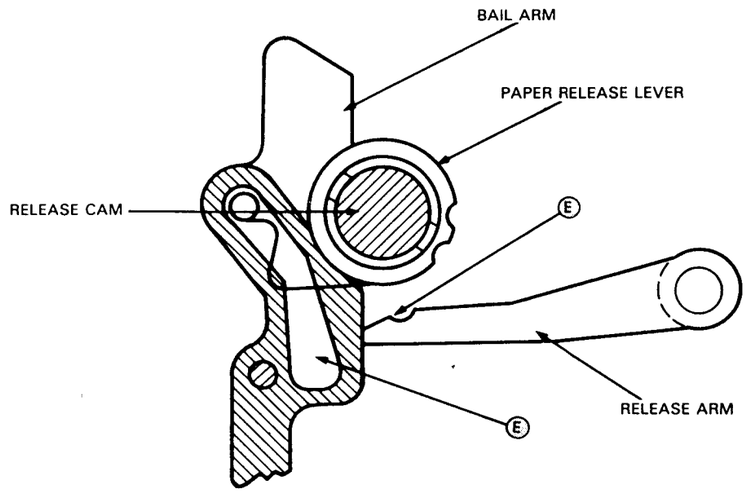
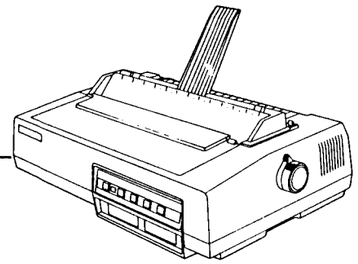


Figure 3-5 Right Bail Arm Lubrication Points

Section 4

Troubleshooting



Pinwriter printers are highly reliable and virtually trouble-free. However, if a problem occurs, use the information in this section to identify the malfunction.

GENERAL TROUBLESHOOTING PROCEDURES

The following three subsections describe the Pinwriter's error codes, self-tests, and test points. The flowcharts following these offer solutions to specific Pinwriter problems. Try each solution, in the order listed, until the problem is solved.

Error Codes

The FONT indicator on the printer's control panel displays error codes to help diagnose a printer malfunction. The error codes are divided into three groups. Dx indicates an error in the RS-232C interface, Ex indicates an error in the electronic circuit, and Fx indicates an error in the mechanical assembly. Tables 4-1 through 4-3 give the values of x and the corresponding definition for each type of error.

Table 4-1 RS-232C Interface Errors (Dx)

VALUE OF X	ERROR DEFINITION
1	Check sum error for RS-232C firmware ROM
2	RAM check error in RS-232C CPU (D7810)
3	RAM check error for 2 K receive buffer
4	Reserved for future use
5	Timer check in RS-232C CPU (D7810)

Table 4-2 Electronic Circuit Errors (Ex)

VALUE OF X	ERROR DEFINITION
0	Check sum error for master firmware ROM
1	Check sum error for slave firmware ROM
2	Reserved for future use
3	Check sum error for resident CG ROM
4	RAM check error used for master CPU
5	RAM check error in slave CPU (D7810)
6	Reserved for future use
7	Timer check error in slave CPU (D7810)
8	Check sum error for ROM of font cartridge in slot 1
9	Check sum error for ROM of font cartridge in slot 2
A	RAM check error for RAM cartridge in slot 1 (total of 16 K pseudo-static RAM)
B	RAM check error for RAM cartridge in slot 2 (total of 16 K pseudo-static RAM)
C	Reserved for future use
D	RAM check error in master CPU (D7810)

Table 4-3 Mechanical Assembly Errors (Fx)

VALUE OF X	ERROR DEFINITION
0	Print head sensed HP sensor during printing
1	Communication error between master and slave CPU
2	Master-slave command error
3	Color ribbon homing error/color change error
4	Carriage homing error
5	Slave CPU time-out error
6	Spacing overrun
7	Spacing miscount
8	Spacing acceleration-step shortage
9	Cut sheet feeder paper eject error at power on

Self-Tests

The Pinwriter P5 performs several self-tests to aid in identifying printer malfunctions. Table 4-4 lists the self-tests and gives a brief description of the function of each. To perform the tests, hold down the control panel button(s) indicated in Table 4-4 and turn on the printer.

Table 4-4 Pinwriter P5 Self-Tests

TEST NUMBER	CONTROL PANEL BUTTON	FUNCTION
1	FEED	Prints a stored line to demonstrate print quality and accuracy. Also allows you to check printer line feed, spacing, and ribbon feed operations (user self-test).
2	MODE	Gives the revision level of firmware, all switch settings, and enters hex dump mode.
3	MODE and FONT	Tests ROM check sum and RAM (gives location of programming error).
4	SELECT and FEED	Gives revision level of firmware and listing of switch settings, fires every pin on print-head, and prints a stored line of print styles (all mode test).

Test Points

The power supply test points allow you to check the voltage and determine if the power supply is faulty. These test points are clearly marked on connector 51 on the power supply board (see Figure 4-1). Use the following procedure to check the voltage.

1. To check the +5 V voltage, connect the positive lead to pin 1 or 2, and the negative lead to signal ground (SG).
2. To check the +34 V voltage, connect the positive lead to pin 7 or 8 and the negative lead to DG.

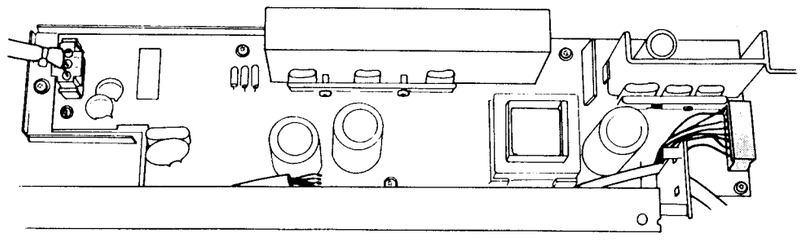


Figure 4-1 Location of Connector 51

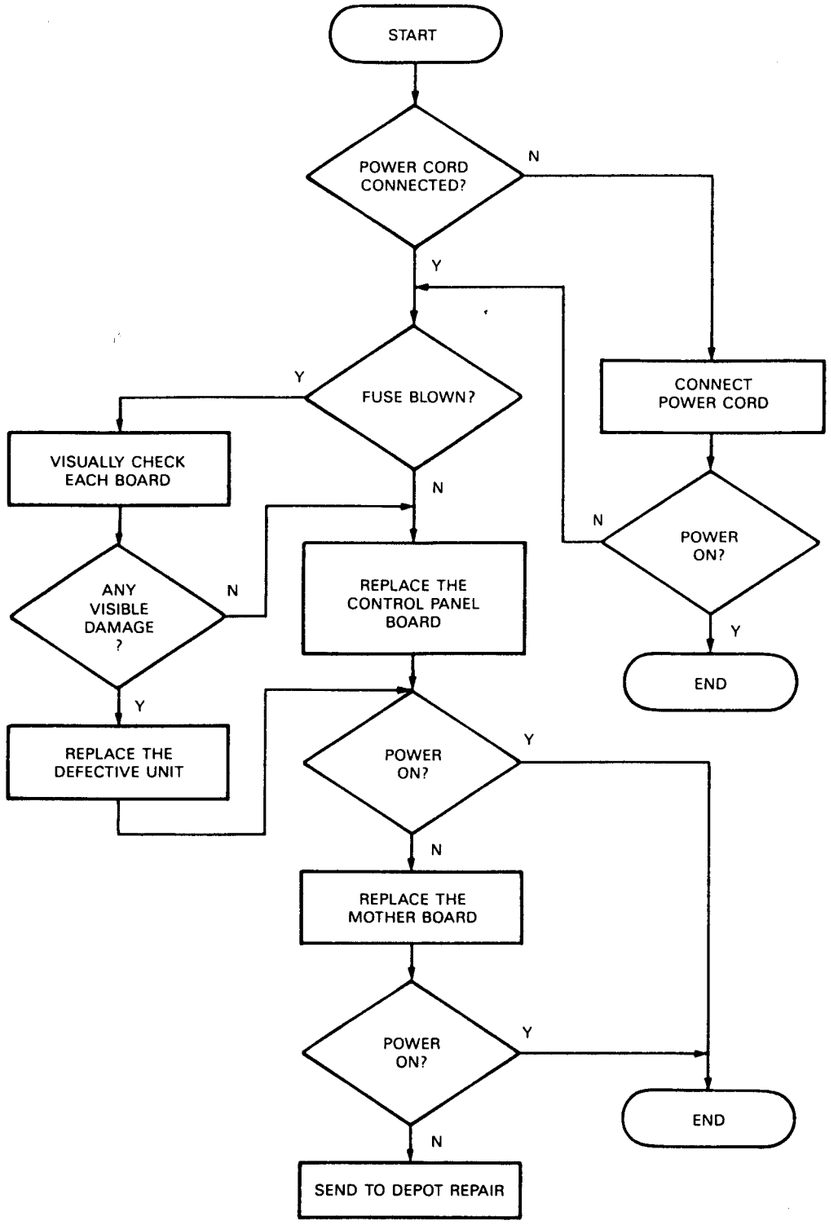
SPECIFIC TROUBLESHOOTING PROCEDURES

The flowcharts in this subsection give troubleshooting procedures for the following printer problems:

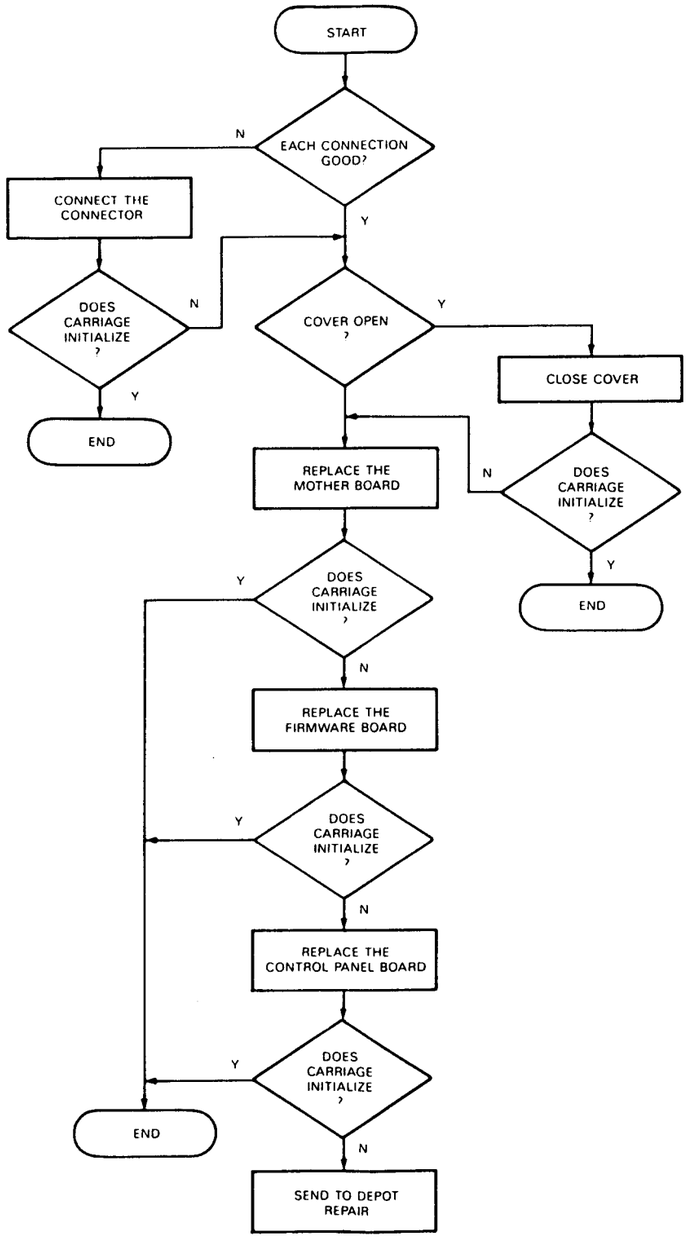
- Power lamp does not light;
- Carriage does not initialize;
- Control panel buttons do not function properly;
- Control panel lamps do not function properly;
- Self-test printout is abnormal;
- On-line printing is abnormal.

Refer to the appropriate flowchart for solutions to a particular problem.

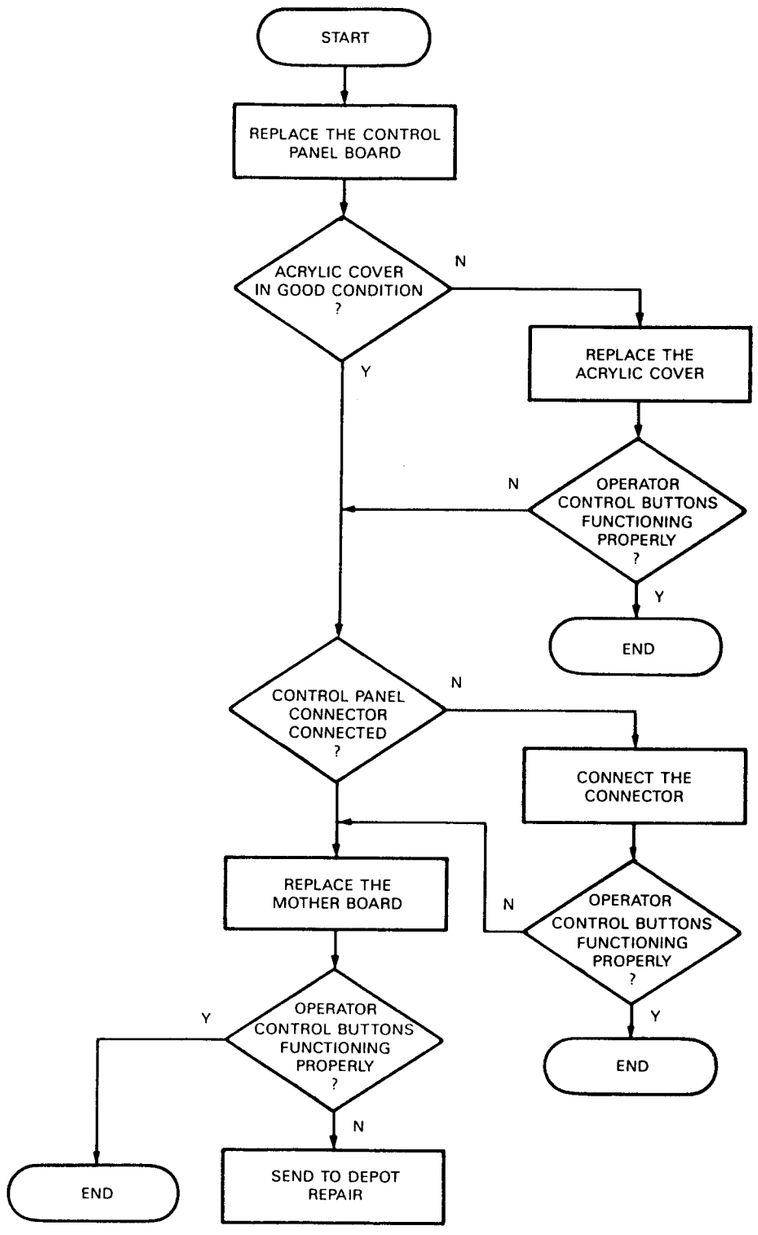
Power Lamp Does Not Light



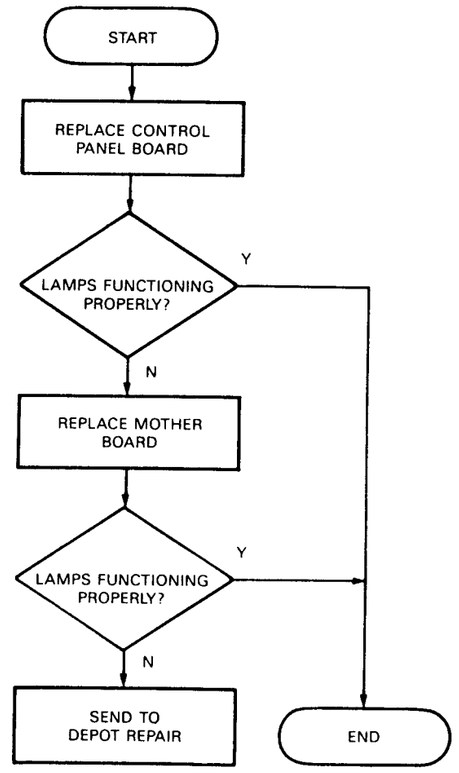
Carriage Does Not Initialize



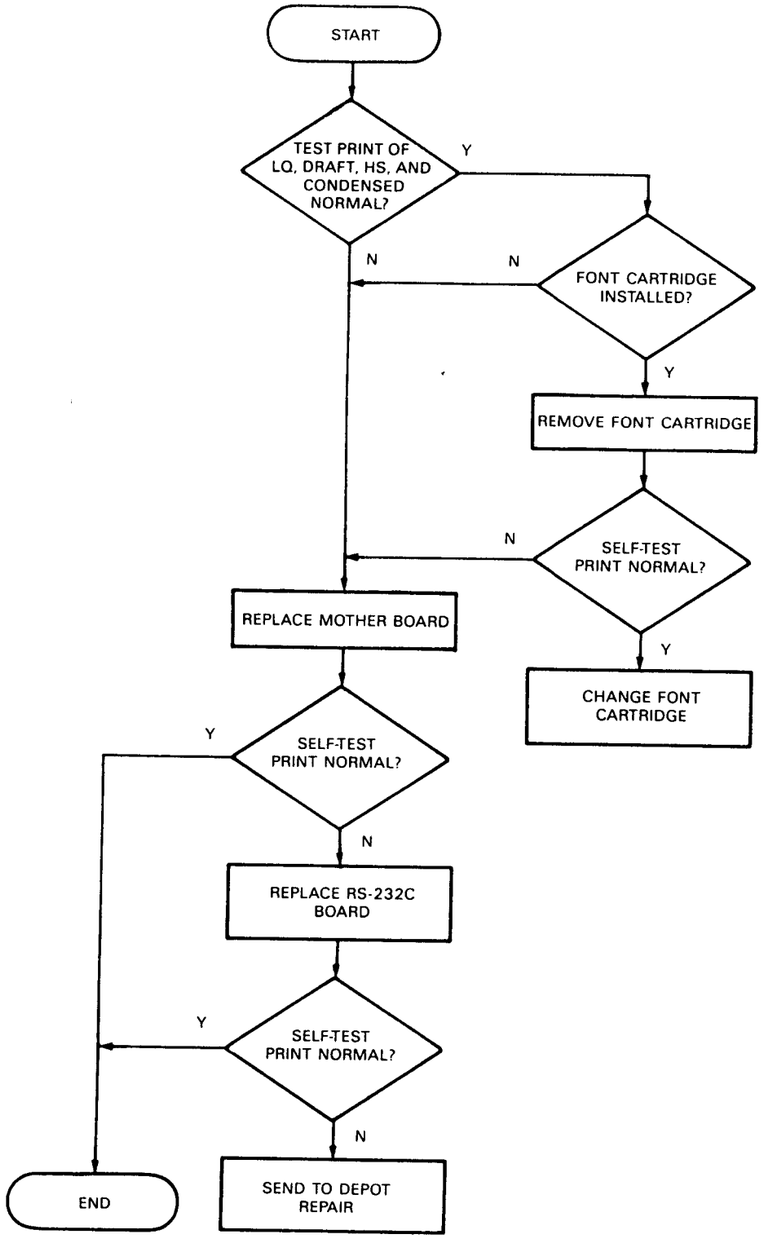
Control Panel Buttons Do Not Function Properly



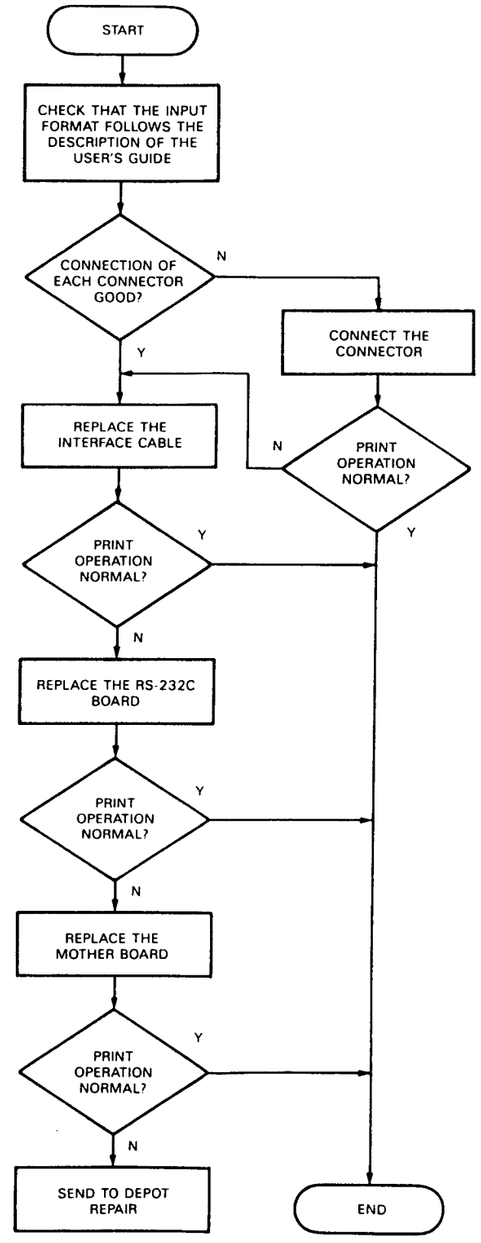
Control Panel Lamps Do Not Function Properly



Self-Test Printout Is Abnormal

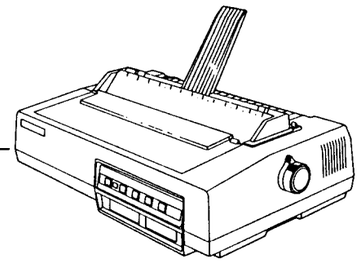


On-Line Printing Is Abnormal



Section 5

Parts Removal and Installation



This section provides removal and installation procedures for the Pinwriter P5. Unless otherwise noted, install a part by simply reversing the removal procedure.

When disassembling the P5, follow these general rules.

WARNING

Always disconnect the power cord before performing any maintenance or adjustment procedure on the P5. Voltage is present inside the printer even after power is turned off. Only when the power cord is disconnected is all voltage removed.

- Turn off and unplug the printer.
- Remove any paper handling options that may be attached to the printer.
- Do not disassemble units into parts that are smaller than replacement units.
- Grasp a connector by its sides to remove it; do not pull on the wire harness that is attached to the connector.
- Perform the removal procedures in the sequence given.

REQUIRED TOOLS

- #2 Phillips screwdriver
- 7 mm combination wrench
- adjustable wrench
- 2 mm Allen wrench
- needle-nose pliers
- 5.5 mm nut driver

TOP COVER REMOVAL

Remove any paper handling option that may be installed. Then proceed as follows.

1. Pull off the platen knob and paper release lever.
2. Open the acrylic cover.
3. Loosen the two front screws (see Figure 5-1).
4. Remove the two rear screws (see Figure 5-1).
5. Lift off the cover.

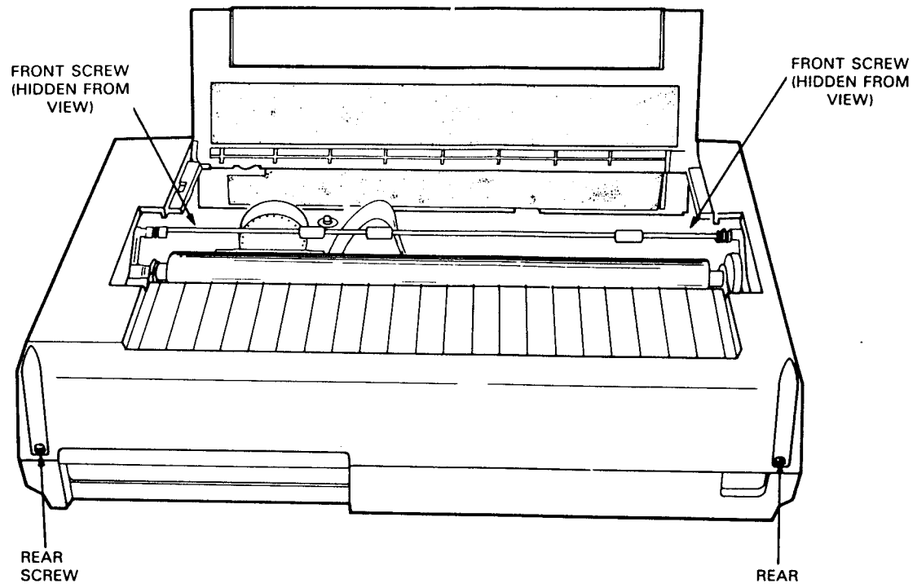


Figure 5-1 Top Cover Screws

ACRYLIC COVER REMOVAL

To remove the acrylic cover, first remove the top cover. Then proceed as follows.

1. Remove the two brackets on either side of the acrylic cover (see Figure 5-2).
2. Lift the acrylic cover up and away from the printer's top cover.

FIRMWARE BOARD (G9WDD) REMOVAL

1. Open the acrylic cover.
2. Slide the print head to the left side of the printer.
3. Being careful not to pull the ribbon feed wire, grasp the lock on the cover (see Figure 5-3).
4. Firmly push the cover to the right and pull up to remove it. Do not try to pry the cover off.
5. Lift the firmware board to disconnect the connector from the mother board (see Figure 5-4).

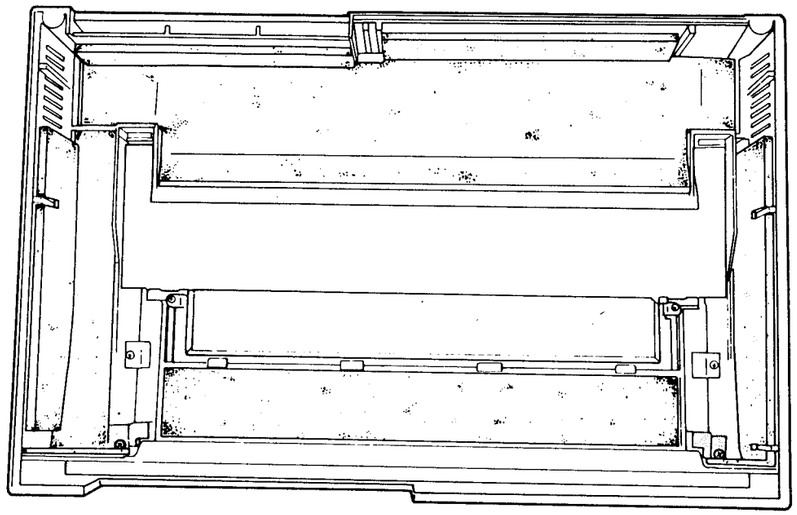


Figure 5-2 Acrylic Cover Brackets

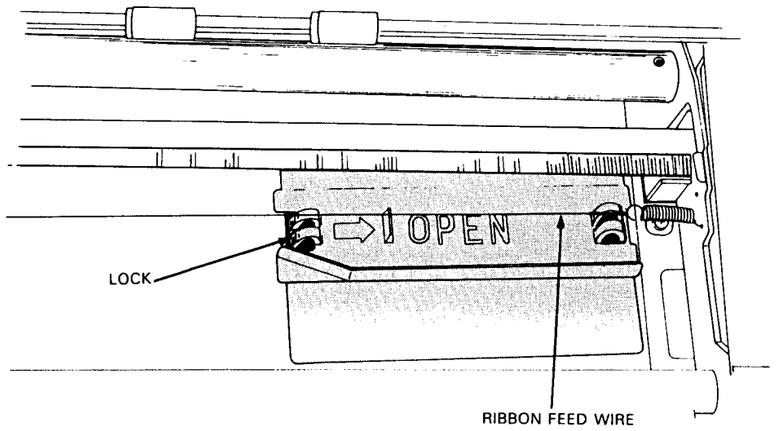


Figure 5-3 Firmware Board Cover

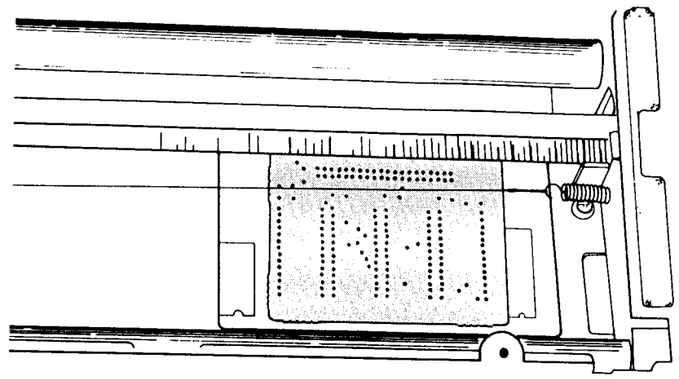


Figure 5-4 Firmware Board

PRINT HEAD REMOVAL

1. Open the acrylic cover.
2. Remove the ribbon cartridge.
3. Remove the two screws securing the print head (see Figure 5-5).
4. Pull up firmly to remove the print head from its connector.

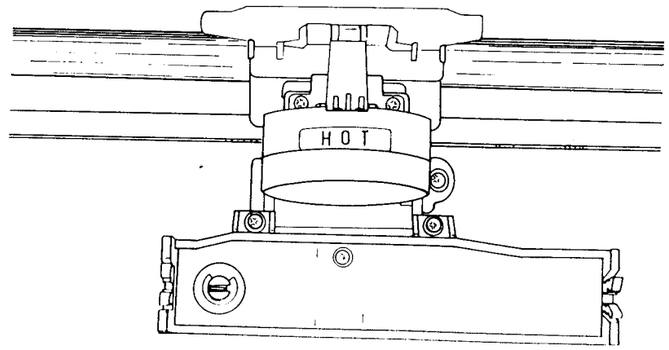


Figure 5-5 Print Head Screws

CARD HOLDER REMOVAL

To remove the card holder, first remove the print head. Then proceed as follows.

1. Remove the screw securing the card holder (see Figure 5-6).
2. Lift the card holder up and out of the printer.

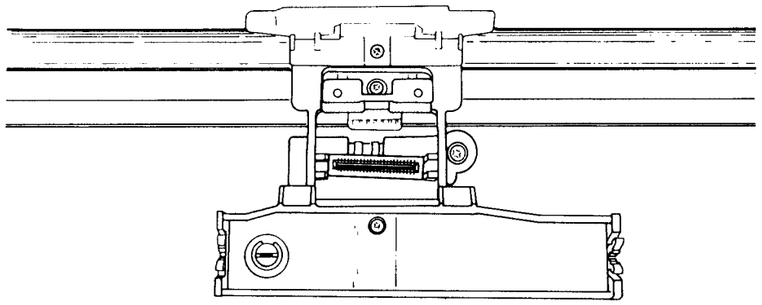


Figure 5-6 Card Holder Screw

SPACING BELT REMOVAL

To remove the spacing belt, first remove the print head. Then proceed as follows.

1. Loosen the locking nut (see Figure 5-7).

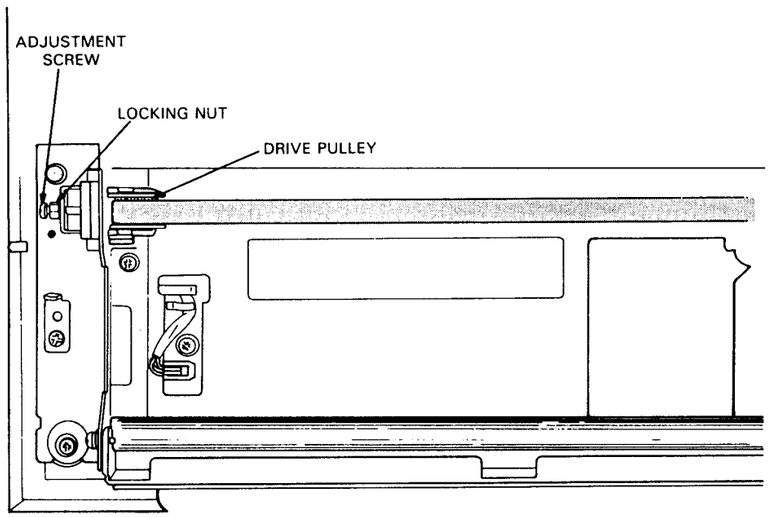


Figure 5-7 Drive Pulley and Tension Bracket

2. Loosen the adjustment screw.
3. Lift the drive pulley from the tension bracket and remove the belt from the drive pulley (see Figure 5-7).

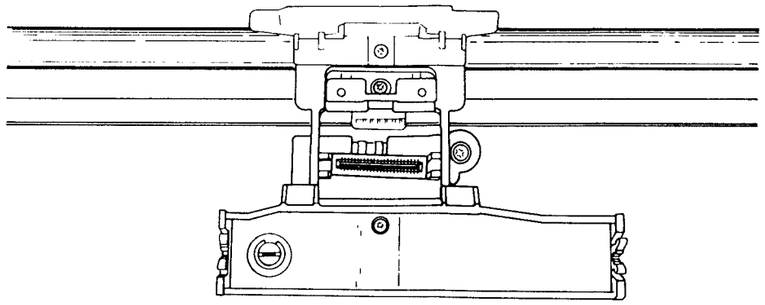


Figure 5-8 Spacing Belt Screw

4. Loosen the screw securing the spacing belt, and slide the belt free of the carriage frame (see Figure 5-8).
5. Remove the belt from the spacing motor drive pulley on the right side of the printer (see Figure 5-9).

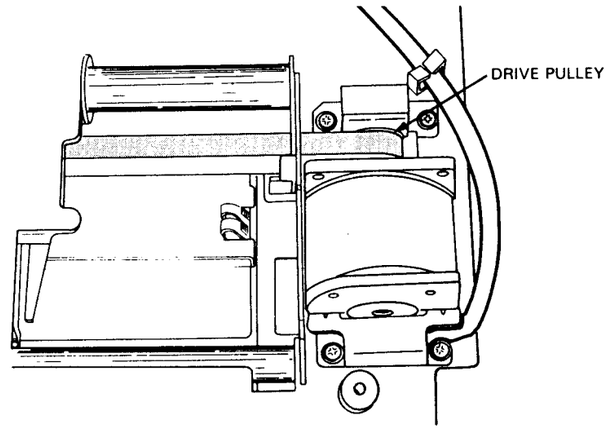


Figure 5-9 Spacing Motor Drive Pulley

HOME POSITION (HP) SENSOR ASSEMBLY REMOVAL

To remove the HP sensor assembly, first remove the top cover. Then proceed as follows.

1. Move the print head to the right side of the printer.
2. Disconnect CN7 from the rear left side of the mother board (see Figure 5-10). Disconnect the cable from the cable clamp.
3. Mark the position of the HP sensor with a pencil. This mark will be used as a reference point for adjustments.

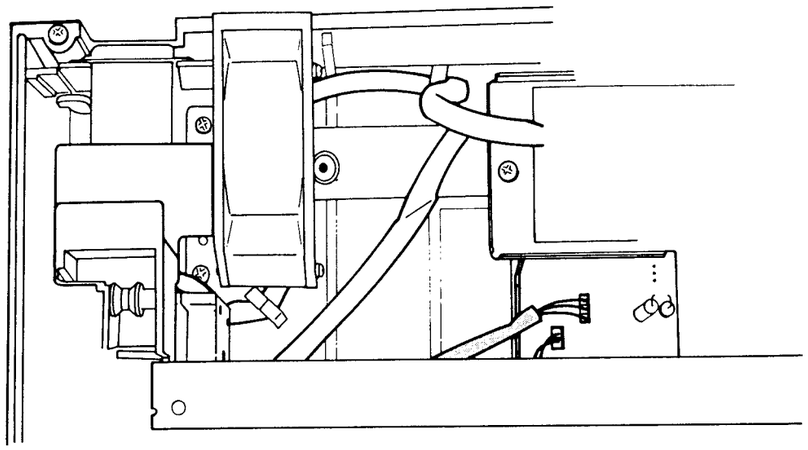


Figure 5-10 Connector 7

4. Remove the screw securing the HP sensor assembly (see Figure 5-11).
5. Carefully lift the HP sensor assembly and cable to remove them from the printer.

HOME POSITION SENSOR ASSEMBLY INSTALLATION

1. Insert the HP sensor cable through the hole in the base of the printer and run it towards the back of the printer.
2. Connect the cable to CN7 on the mother board and fit the cable into the cable clamp.
3. Install the HP sensor, using the screw provided.
4. See Section 6 for the procedure to adjust the first print position.

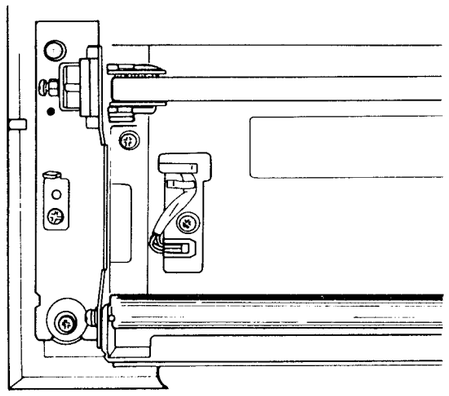


Figure 5-11 HP Sensor Screw

POWER SUPPLY BOARD REMOVAL

To remove the power supply board, first remove the top cover. Then proceed as follows.

1. Disconnect CN51 and CN52 from the power supply board (see Figure 5-12).
2. Remove the five screws from the power supply board.
3. Remove the two screws securing the heat sink (see Figure 5-13).
4. Lift the power supply board out of the printer.

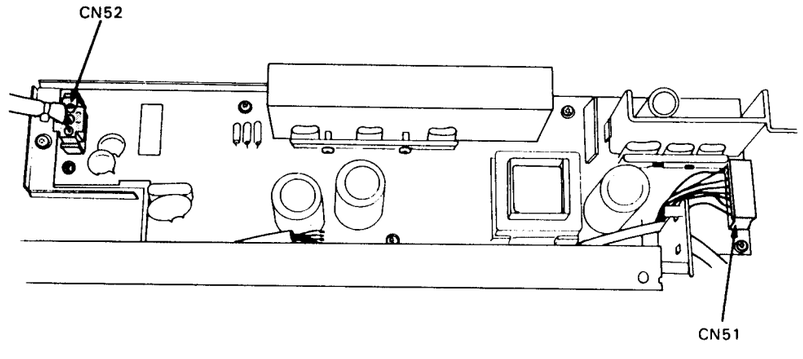


Figure 5-12 Power Supply Board Screws and Connectors

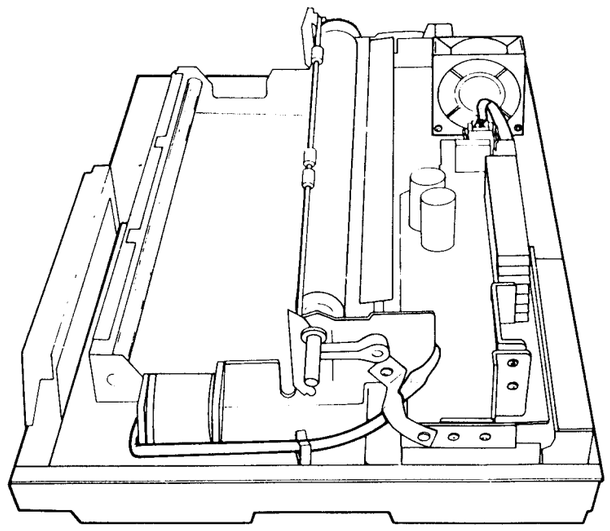


Figure 5-13 Heat Sink Screws

FAN AND SWITCH ASSEMBLY REMOVAL

To remove the fan and switch assembly, first remove the top cover. Then proceed as follows.

1. Disconnect CN3 from the mother board (see Figure 5-14).
2. Remove the two screws securing the fan bracket.
3. Lift the fan and bracket from the printer.
4. Remove the two screws holding the fan to the bracket (see Figure 5-15).

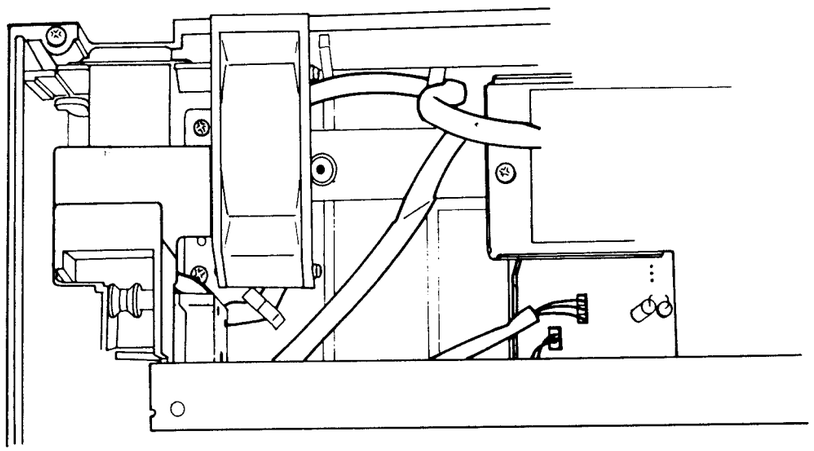


Figure 5-14 Fan and Switch Assembly Screws and Connector

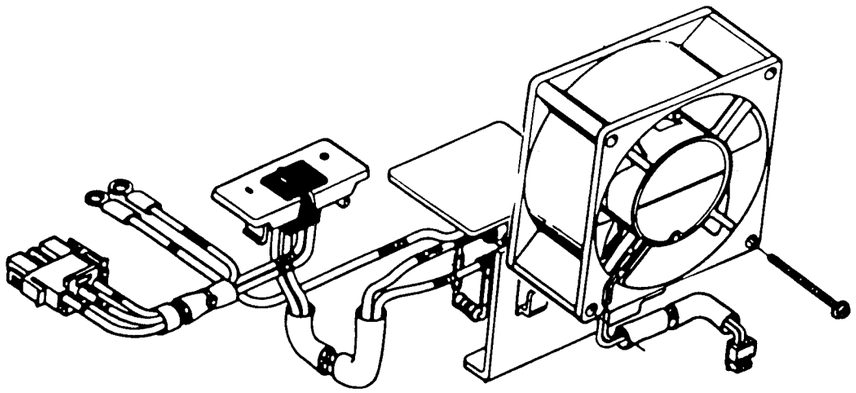


Figure 5-15 Fan Screws

RIBBON FEED ASSEMBLY REMOVAL

To remove the ribbon feed assembly, first remove the top cover. Then proceed as follows.

1. Slide the print head to the center of the carriage.
2. Unhook the ribbon feed wire from the feed wire bracket on the left side of the printer (see Figure 5-16).
3. Unhook the feed wire spring from the right side of the printer.
4. Remove the three screws securing the ribbon feed assembly.
5. Without tangling the ribbon feed wire around the carriage, lift the ribbon feed assembly out of the printer.

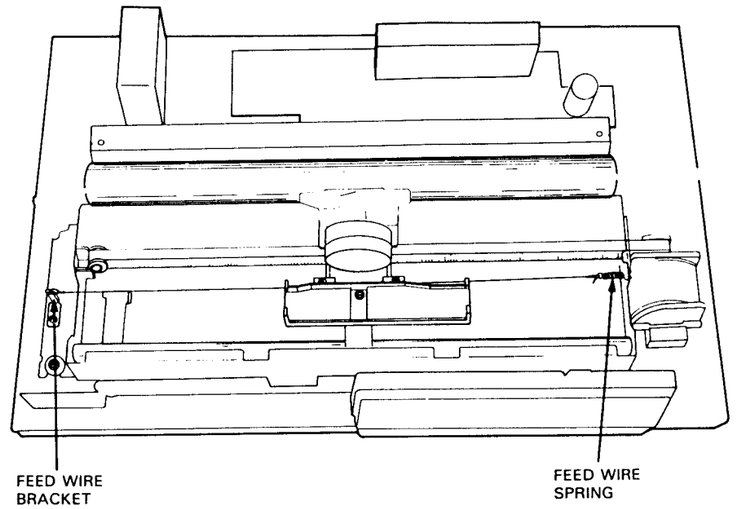


Figure 5-16 Ribbon Feed Assembly

RIBBON FEED ASSEMBLY INSTALLATION

1. Hook the ribbon feed wire onto the feed wire spring on the right side of the printer.
2. Run the ribbon feed wire between the carriage frame and the print head cables.
3. Wind the ribbon feed wire around the feed pulley twice in a counterclockwise direction.
4. Hook the left end of the ribbon feed wire to the feed wire bracket.
5. Carefully place the ribbon feed assembly on the carriage, and install the three screws.
6. Move the carriage back and forth three or four times to settle the winding position of the ribbon feed wire.

PRINT HEAD CABLE REMOVAL

To remove the print head cables, first remove the print head and ribbon feed assembly. Then proceed as follows.

1. Move the print head to the right side of the printer.
2. Grasp the cable cover lock (see Figure 5-17).
3. Pull the cable cover up to remove it.
4. Pull up both ends of the connector locks to release the print head cables from the connectors (see Figure 5-18).
5. Unwind the print head cables from around the cable holder.
6. Slide the print head cable connector backward and lift it to remove the cables (see Figure 5-19).

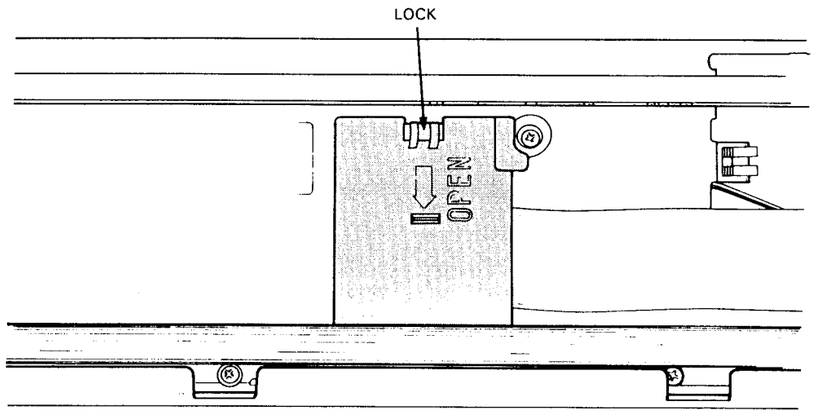


Figure 5-17 Print Head Cable Cover

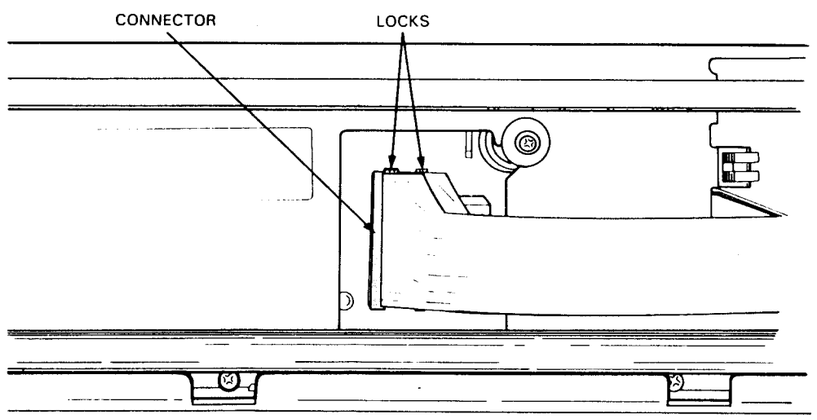


Figure 5-18 Connectors and Locks

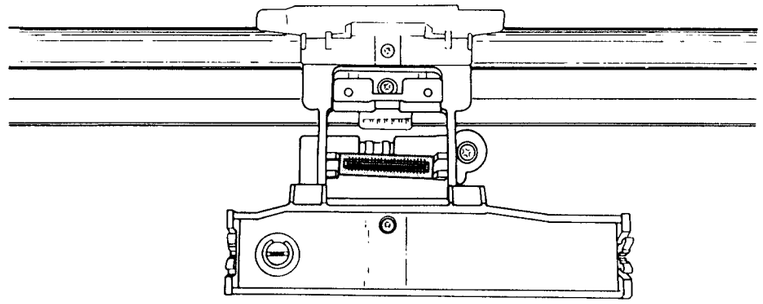


Figure 5-19 Print Head Cable Connector

MECHANICAL ASSEMBLY REMOVAL

To remove the mechanical assembly, first remove the print head cables from their connectors. Then proceed as follows.

1. Disconnect CN4 and CN20 (see Figure 5-20).
2. Disconnect CN7 (see Figure 5-21).
3. Remove the frame-ground plate screw from the right side of the mechanical assembly (see Figure 5-22).
4. Remove the two frame-ground screws from the left side of the mechanical assembly (see Figure 5-23).

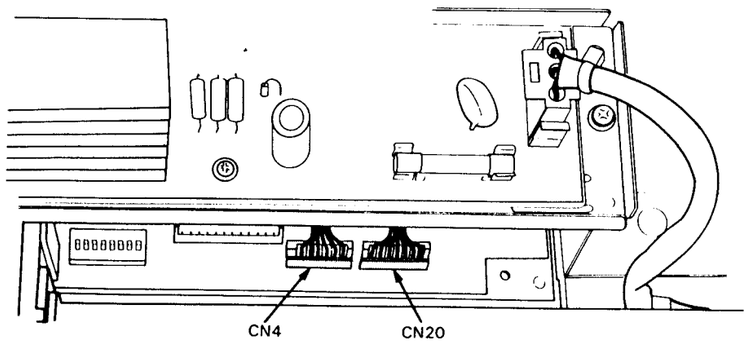


Figure 5-20 Connectors 4 and 20

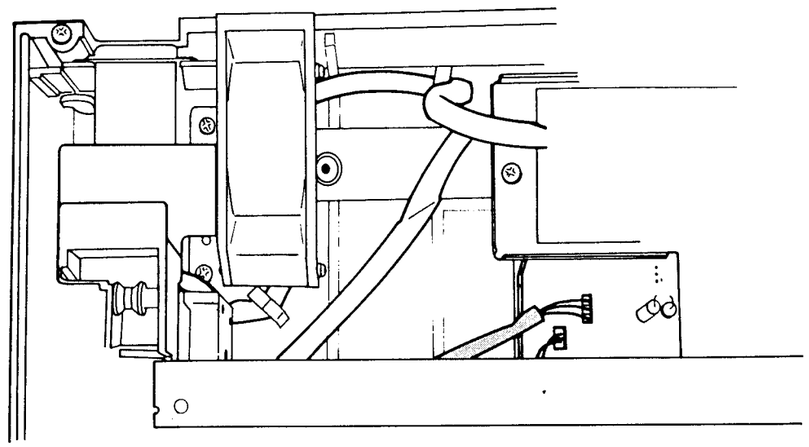


Figure 5-21 Connector 7

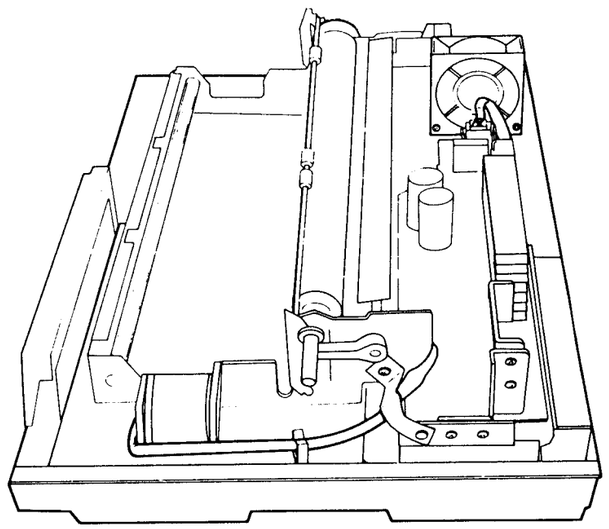


Figure 5-22 Frame-Ground Plate Screw

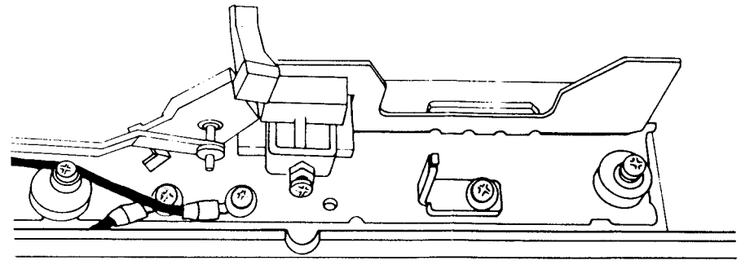


Figure 5-23 Frame Ground Screws

5. Remove the five screws securing the mechanical assembly (see Figures 5-24 and 5-25).

NOTE

The screw at the left-rear corner of the mechanical assembly is shorter than the other four screws.

6. Lift the assembly slowly to remove it.

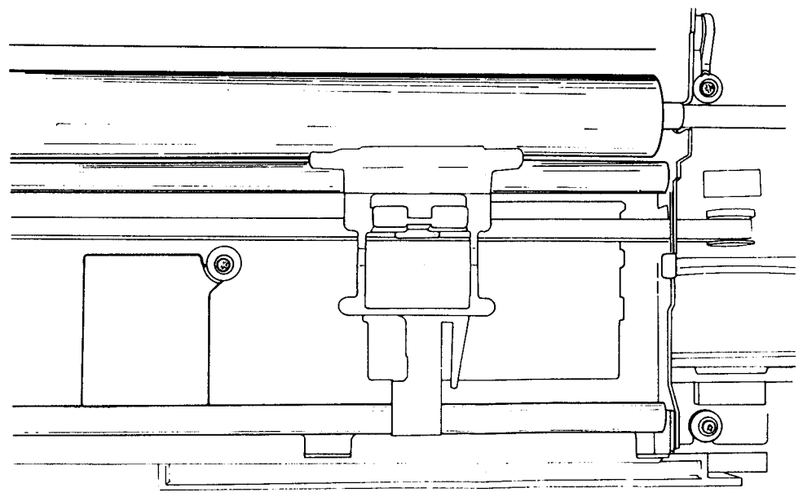


Figure 5-24 Mechanical Assembly Screws (Right Side of Printer)

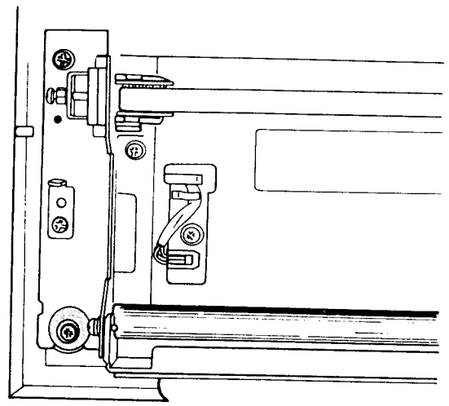


Figure 5-25 Mechanical Assembly Screws (Left Side of Printer)

PLATEN REMOVAL

To remove the platen, first remove the mechanical assembly. Then proceed as follows.

1. Remove the paper bail.
2. Remove the right paper bail arm and spring (see Figure 5-26).
3. Remove the right release cam (see Figure 5-27).
4. Remove the platen gear on the left side of the platen (see Figure 5-28).
5. Remove the left and right platen-adjusting plates (see Figure 5-29).
6. Rotate the platen bushings 90 degrees.
7. Lift the platen from the frame.

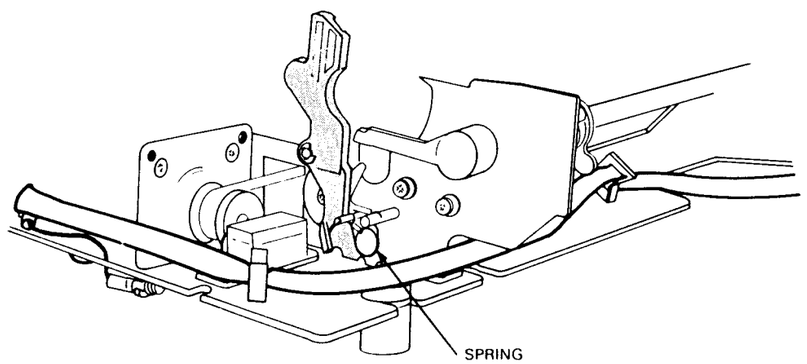


Figure 5-26 Right Paper Bail Arm and Spring

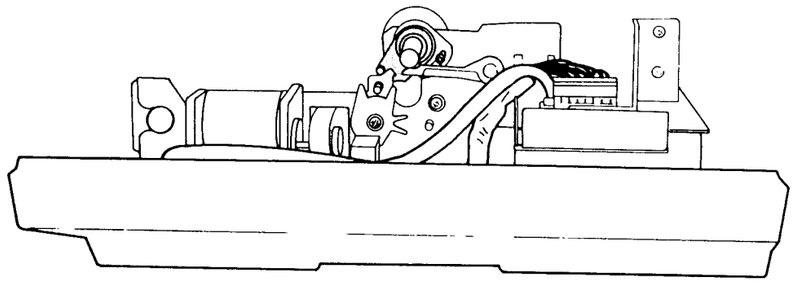


Figure 5-27 Release Cam

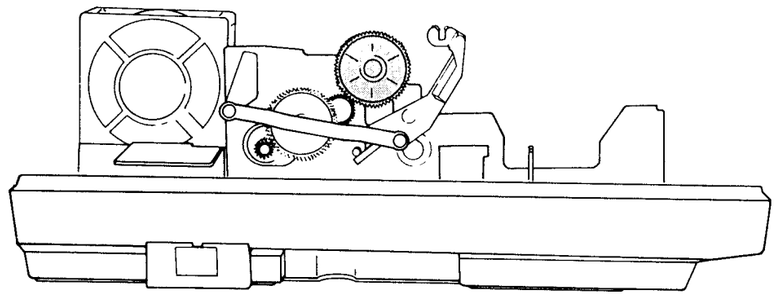


Figure 5-28 Platen Gear

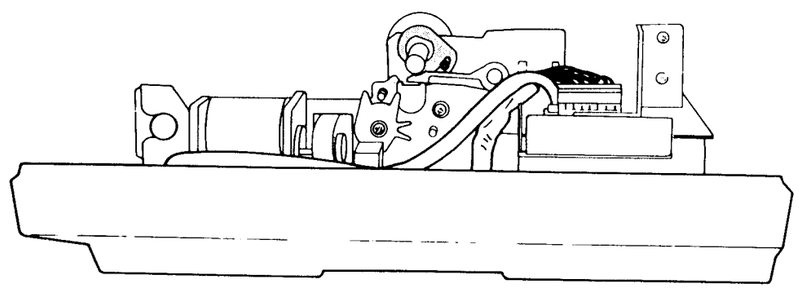


Figure 5-29 Right Platen-Adjusting Plate

PAPER GUIDE ASSEMBLY REMOVAL

To remove the paper guide assembly, first remove the platen. Then proceed as follows.

1. Remove the two paper guide screws (see Figure 5-30).
2. Lift the paper guide assembly from the frame of the mechanical assembly.

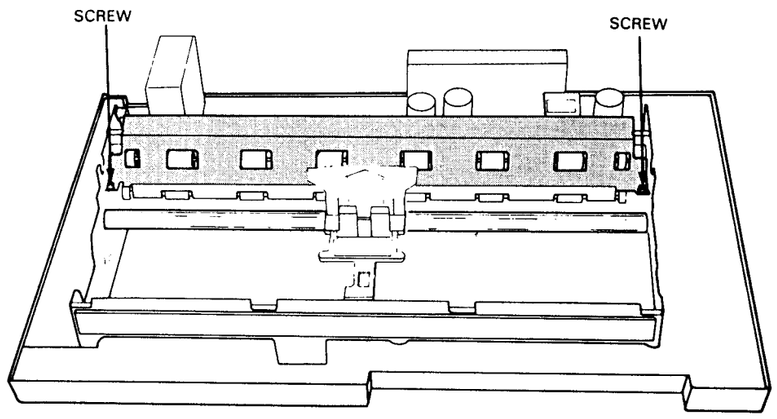


Figure 5-30 Paper Guide Screws

RS-232C (G9WDH) BOARD REMOVAL (MODELS P565 AND P535 ONLY)

To remove the RS-232C board, first remove the top cover. Then proceed as follows.

1. Remove the two screws holding the RS-232C board to the frame of the printer (see Figure 5-31).
2. Remove the power supply board and chassis.
3. Disconnect CN5 and CN14 (see Figure 5-32).
4. Remove the RS-232C board from the frame of the printer.

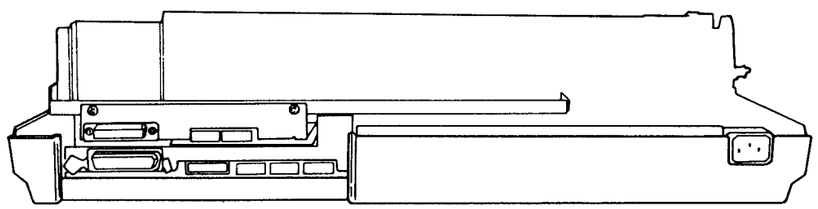


Figure 5-31 RS-232C Board Screws

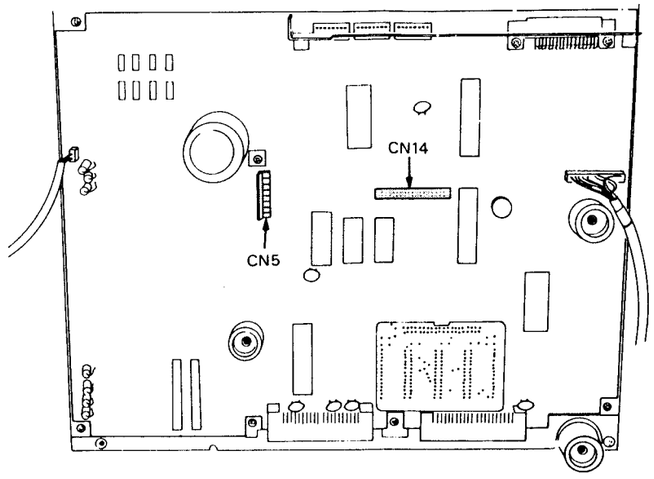


Figure 5-32 Connectors 5 and 14

MOTHER BOARD (G9WDB) REMOVAL

To remove the mother board, first remove the mechanical assembly. Then proceed as follows.

1. Disconnect CN51 and CN52 (see Figure 5-33).
2. Remove the three screws securing the power chassis and remove the power chassis (see Figure 5-34).
3. Disconnect CN3 and CN9 (see Figure 5-35).
4. Remove the eight screws securing the mother board.
5. Lift the board out of the printer.

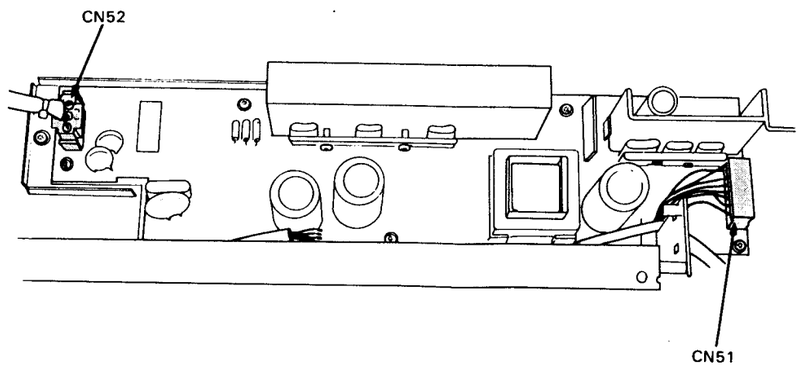


Figure 5-33 Connectors 51 and 52

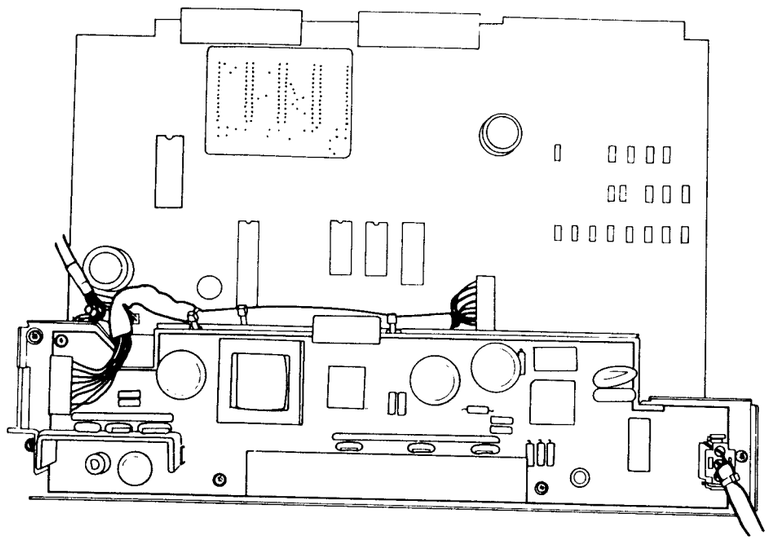


Figure 5-34 Power Chassis Screws

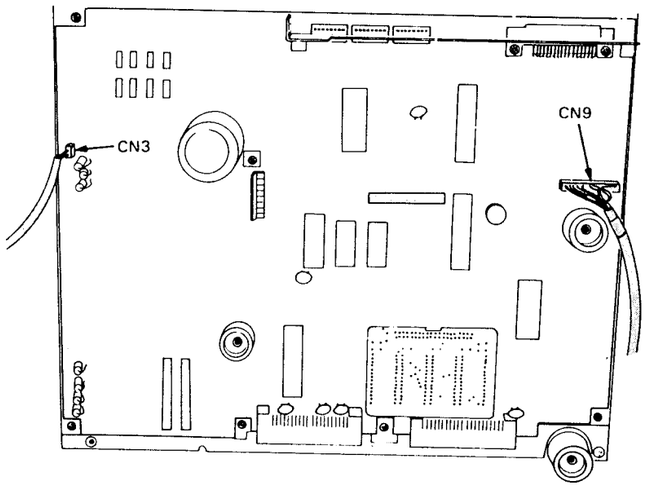


Figure 5-35 Mother Board Connectors and Screws

SPACING MOTOR ASSEMBLY REMOVAL

To remove the spacing motor assembly, first remove the mechanical assembly. Then proceed as follows.

1. Make sure that the adjustment screw is loosened but not removed (see Figure 5-36).

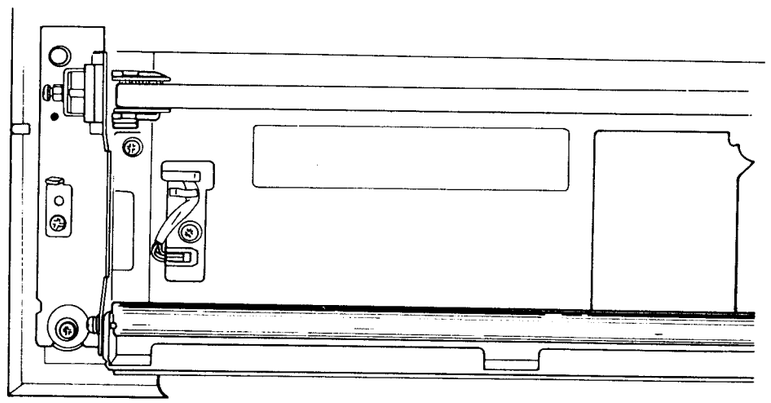


Figure 5-36 Adjustment Screw

2. Remove the four screws used to mount the spacing motor (see Figure 5-37).
3. Release the spacing motor cable from the two cable clamps (see Figure 5-38).
4. Remove the spacing belt from the drive pulley.
5. Lift the spacing motor assembly to remove it.

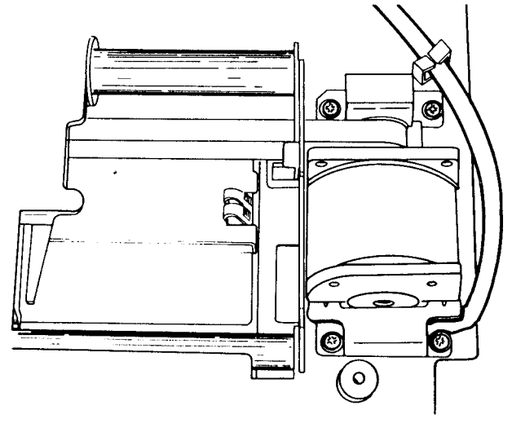


Figure 5-37 Spacing Motor Screws

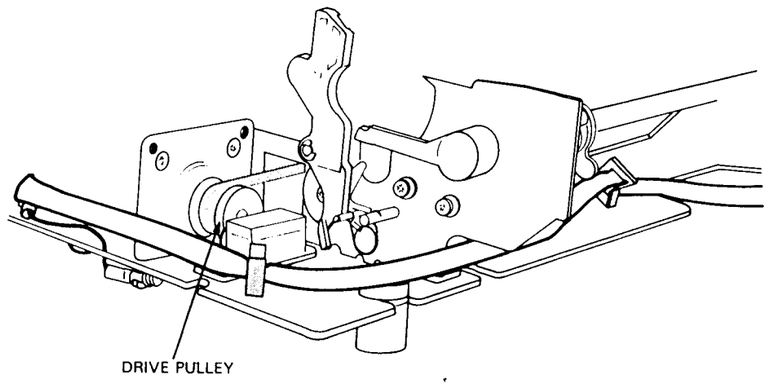


Figure 5-38 Spacing Motor Cable Clamps

LINE FEED MOTOR ASSEMBLY REMOVAL

To remove the line feed motor assembly, first remove the mechanical assembly. Then proceed as follows.

1. Release the line feed motor assembly cable from the cable clamp (see Figure 5-39).
2. Remove the two nuts holding the line feed motor assembly.
3. Pull the line feed motor assembly inside the frame.

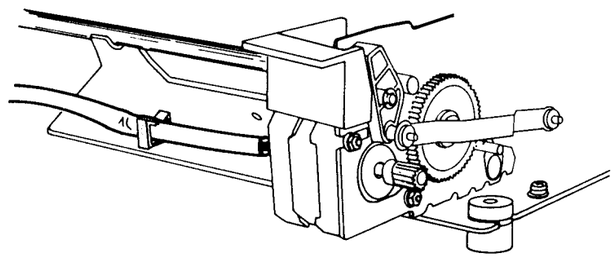


Figure 5-39 Line Feed Motor Cable Clamp and Nuts

CONTROL PANEL REMOVAL

To remove the control panel, first remove the mechanical assembly. Then proceed as follows.

1. Disconnect the control panel connector (see Figure 5-40).
2. Remove the four screws securing the control panel.

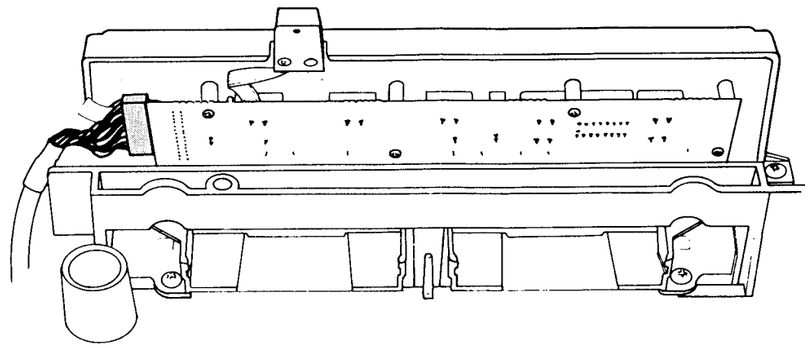
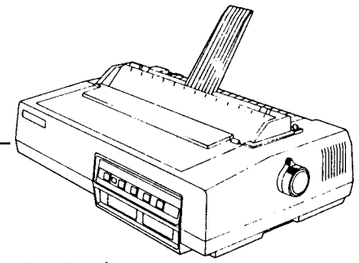


Figure 5-40 Control Panel Connector and Screws

Section 6

Adjustment Procedures



Adjustment procedures described in this section are designed for field-level maintenance of the Pinwriter P5 series printers.

REQUIRED TOOLS

- #2 Phillips screwdriver
- metric feeler gauges
- metric ruler
- tension gauge
- adjustable wrench
- 2 mm Allen wrench

PRINT HEAD GAP ADJUSTMENT

Before performing this procedure, turn the platen to make sure that the problem is not caused by a worn platen. (Return the platen to its correct position when done.) Also check for a worn ribbon or print wires. If the problem persists, follow these steps to adjust the gap between the print head and platen.

1. Remove the card holder.
2. Replace the print head.
3. Set the copy control lever to position 2.
4. Measure the gap between the print head and platen (see Figure 6-1). The gap should measure between 0.014 and 0.015 in. (0.37 and 0.4 mm) and should be the same on both ends of the platen.
5. Adjust the gap by loosening the lock plate screw and turning the left and right platen bushings (see Figure 6-2). Measure the gap and perform the adjustment again if necessary.
6. Replace the card holder and print head.

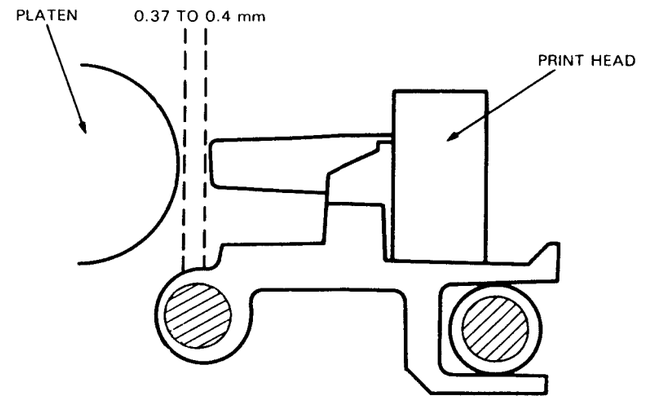


Figure 6-1 Print Head Gap Adjustment

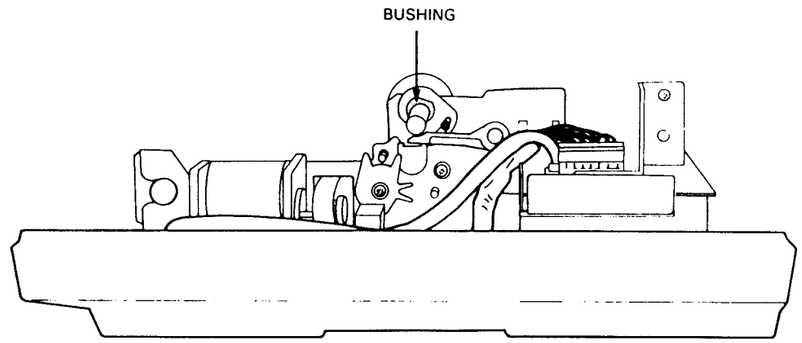


Figure 6-2 Lock Plate Screw and Platen Bushing

LF MOTOR GEAR AND IDLER GEAR BACKLASH ADJUSTMENT

1. Adjust the backlash between the platen gear and the idler gear by loosening the two screws on the frame of the printer (see Figure 6-3). The backlash tolerance should measure between 0.001 and 0.003 in. (0.03 and 0.08 mm).
2. Adjust the backlash between the LF gear and the LF motor gear by loosening the two screws on the LF motor. The backlash tolerance should measure between 0.001 and 0.003 in. (0.03 to 0.08 mm).

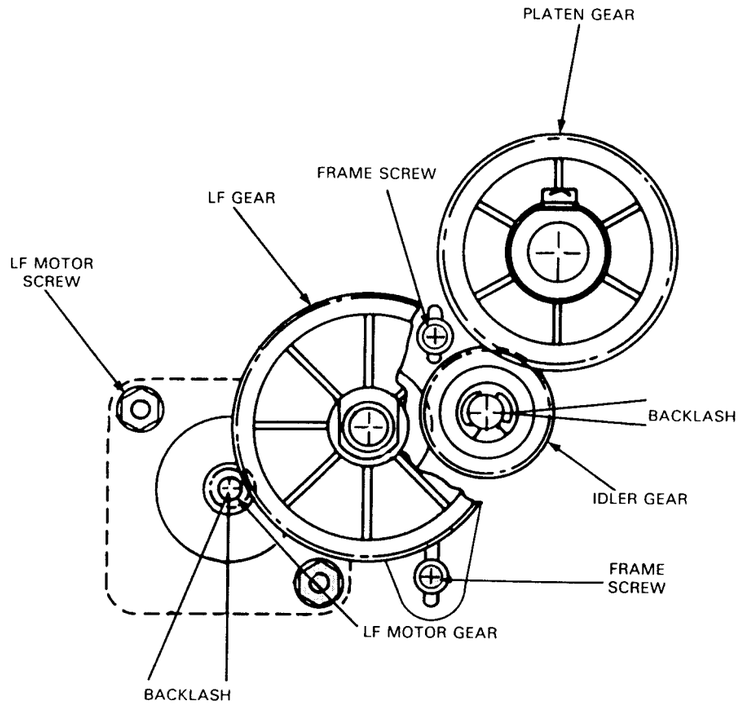


Figure 6-3 Gear Backlash Adjustment

RELEASE ARM ADJUSTMENT

The release arm is located on the right side of the printer and is used to lock the rollers away from the platen. The release arm should have a standard gap of 0.004 to 0.015 in. (0.1 to 0.4 mm) between the release cam and the release arm tip.

1. Set the bail arm to the open position as shown in Figure 6-4.
2. Using a gauge, measure the gap between the release cam and the release arm tip 0.004 to 0.015 in. (0.1 to 0.4 mm).
3. Using a 2mm Allen wrench, loosen the two Allen screws on the release arm to adjust the gap.

PAPER GUIDE ADJUSTMENT

Set the paper release lever to the front position and insert paper into the printer. Pull the paper back and forth through the printer. If it does not go through smoothly, perform the following procedure to adjust the paper guide.

1. Remove the platen.

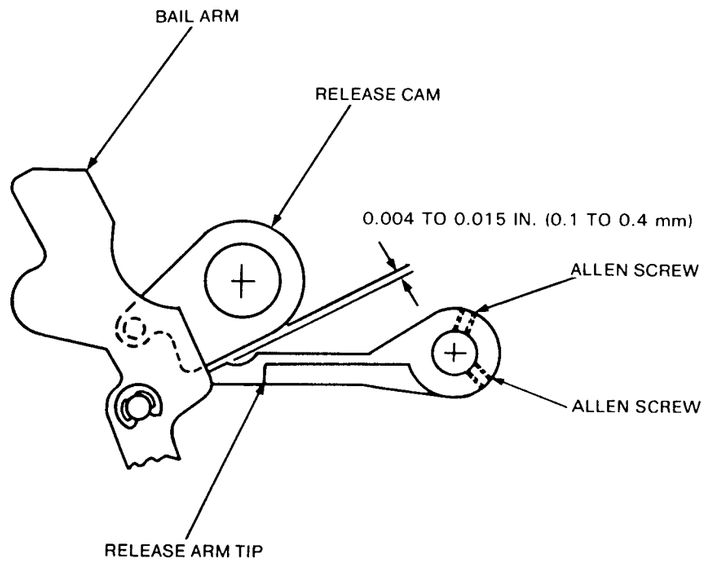


Figure 6-4 Release Arm Adjustment

2. Loosen the two paper guide screws and adjust the gap between the paper guide and the platen (see Figure 6-5). The gap should be greater than 0.02 in. (0.6 mm).
3. Replace the platen.

SPACING BELT TENSION ADJUSTMENT

1. Slide the print head to the left side of the printer.
2. Using a tension gauge, pull up the center of the belt (approximately column 80 on the paper bail ruler). Pull up the belt so that the lower part of the belt meets the upper part (see Figure 6-6). The standard value is 19 ± 0.7 oz. (550 ± 20 g).
3. Adjust the belt tension by turning the adjustment screw on the tension bracket.

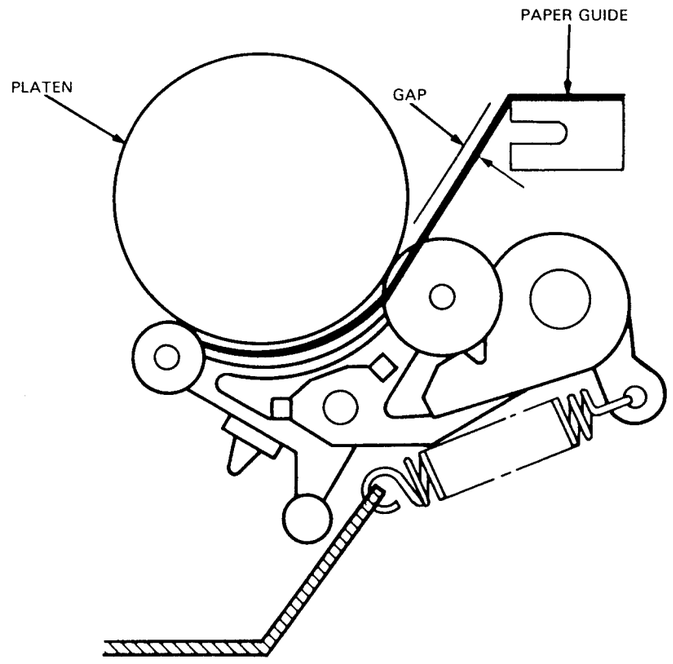


Figure 6-5 Paper Guide Adjustment

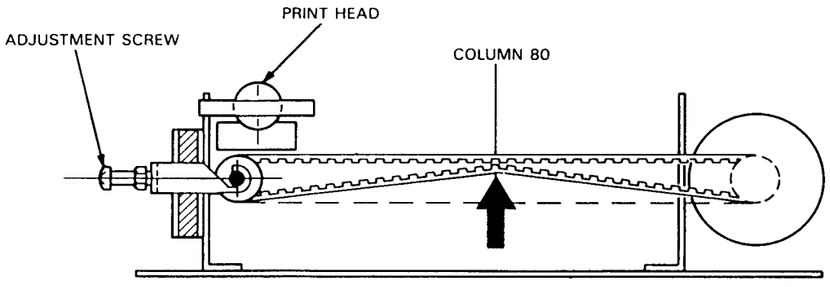


Figure 6-6 Spacing Belt Tension Adjustment

FIRST-PRINT POSITION ADJUSTMENT (HOME POSITION)

1. Turn on the printer and let the print head move to its initialized position.
2. Measure the distance from inside the left side of the printer frame to the left flange of the print head. The distance should measure 1.1 ± 0.2 in. (29 ± 5 mm).

3. Adjust the HP sensor position by loosening the HP sensor screw and moving the sensor (see Figure 6-7).

NOTE

Move the HP sensor in the direction you want home position to move.

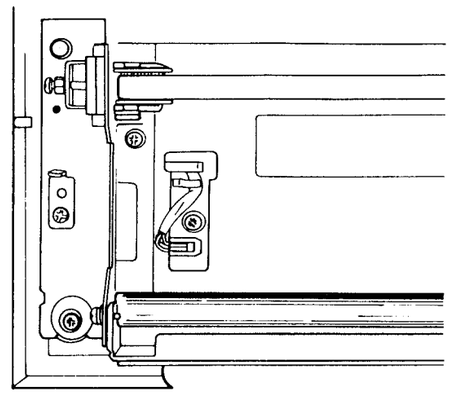
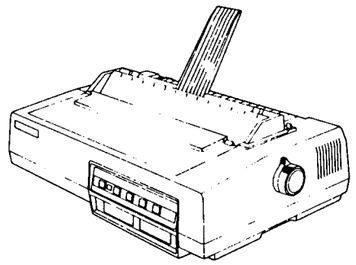


Figure 6-7 First-Print Position Adjustment

Section 7

Illustrated Parts Breakdown



This section contains the list of available ribbons and the illustrated parts breakdown (IPB) for the Pinwriter P5 series printers. The following explains the organization of the parts list.

- Item — contains the item numbers referred to in the callouts.
- Description — contains a brief description of the part. Numbers in parentheses indicate multiple quantities.
- Part Number — contains the NEC part number for ordering spare or replacement parts.

Table 7-1 Pinwriter P5 Ribbons

ITEM	DESCRIPTION	PART NUMBER
1	Black Fabric Ribbon	808-864684-800-A
2	Color Fabric Ribbon	808-864684-011-A
3	Black Multistrike Ribbon	808-865622-800-A

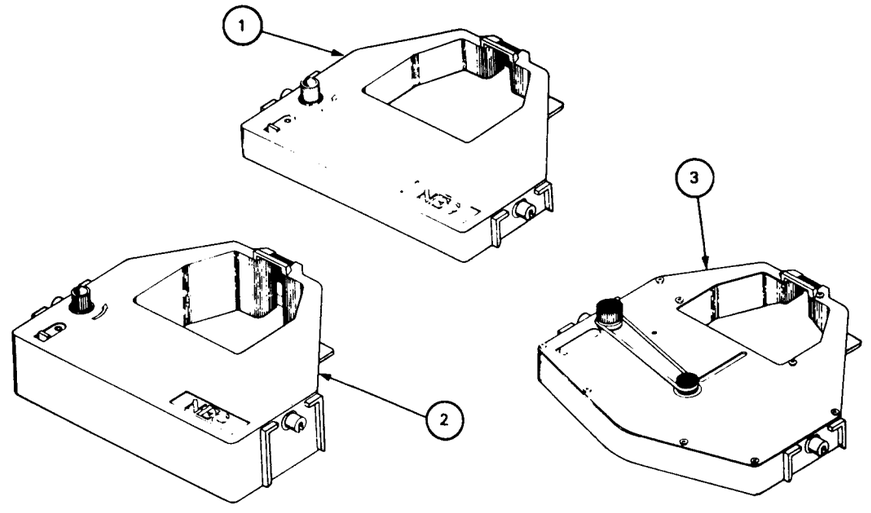
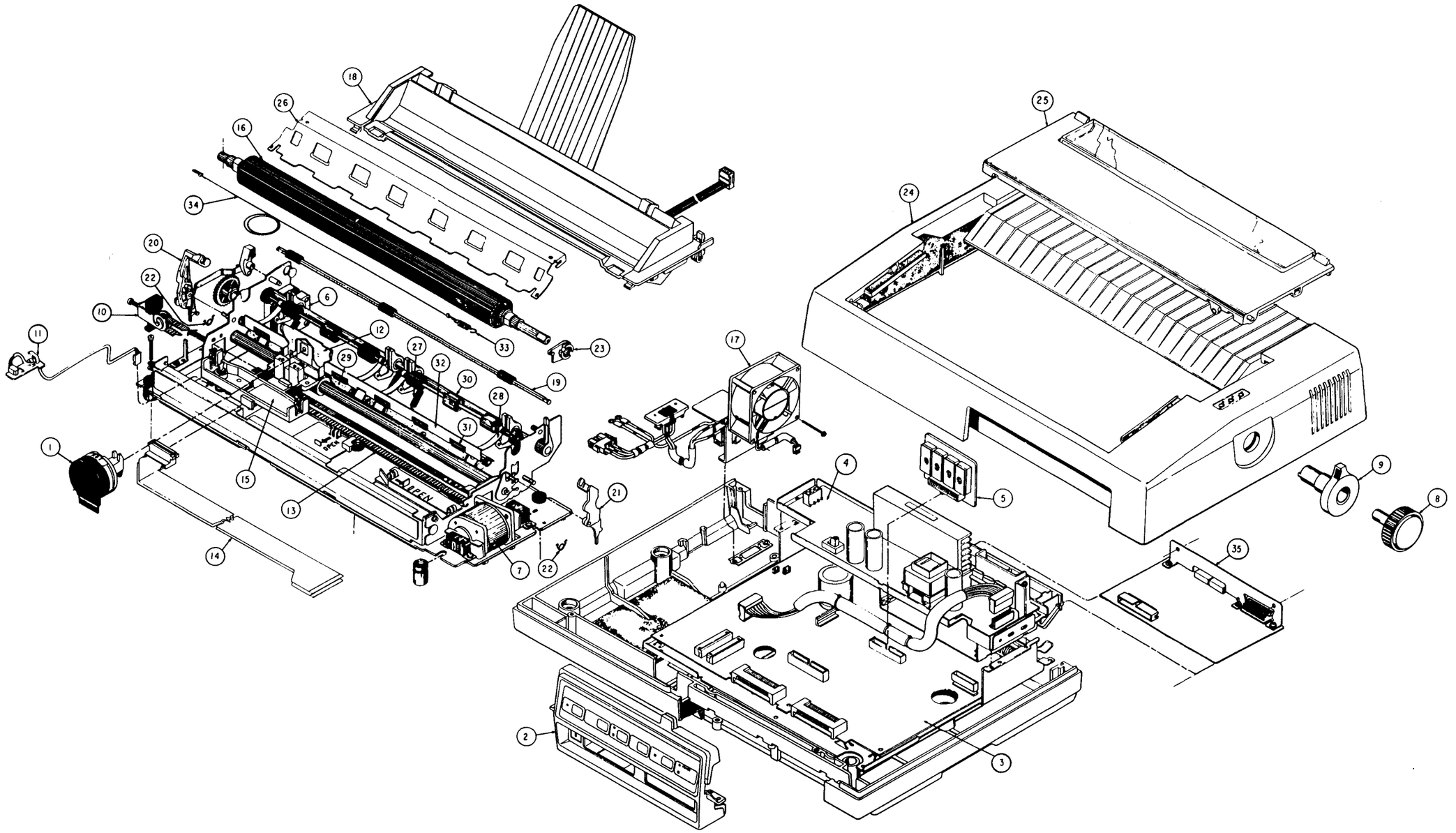


Table 7-2 Pinwriter P5 Parts List

ITEM	DESCRIPTION	PART NUMBER
1	Print Head Assembly	136-200396-001-A
2	Control Panel Assembly	136-200810-801-A
3	G9WDBA Mother Board	136-432907-001-H
4	G9WDC Power Supply Board	136-432908-001-C
5	G9WDDL ROM Board	136-432909-002-A
6	Line Feed Motor Assembly	136-200185-001-A
7	Spacing Motor Assembly	136-200186-001-A
8	Platen Knob	136-757530-A
9	Paper Release Lever	136-768425-0
10	Driven Pulley Assembly	136-768416-0
11	HP Sensor Assembly	136-768438-0
12	Card Holder Assembly	136-768477-0
13	Micropitch Timing Belt	808-805108-802-A
14	Print Head Cable Assembly	136-768497-A
15	Ribbon Feed Assembly	136-200182-501-A
16	Platen	136-768491-501-0
17	DC Fan and Switch Assembly	136-020414-801-A
18	Cut Sheet Guide	136-039963-B
19	Bail Shaft Assembly	136-768433-501-0
20	Left Bail Arm	136-768429-0
21	Right Bail Arm	136-768432-0
22	Bail Spring (2)	136-757512-001-A
23	Release Cam	136-751474-A
24	Middle Cover Assembly	136-774441-501-A
25	Top Cover Assembly	136-779475-501-A
26	Paper Guide Assembly	136-768436-501-A
27	Pressure Roller Spring (4)	136-757524-A
28	Roller Support (4)	136-768484-0
29	Support Plate	136-770912-0
30	Pressure Roller (rear)	136-768486-001-0
31	Pressure Roller (front)	136-768486-002-0
32	Pressure Plate Assembly	136-770917-501-0
33	Tension Spring	136-768517-0
34	Feed Wire Assembly	136-768515-501-0
35	G9WDHA RS-232C Interface Assembly	136-432913-001-D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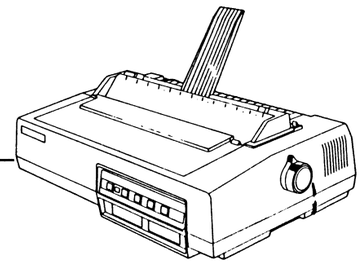
OPEN
ALPHA

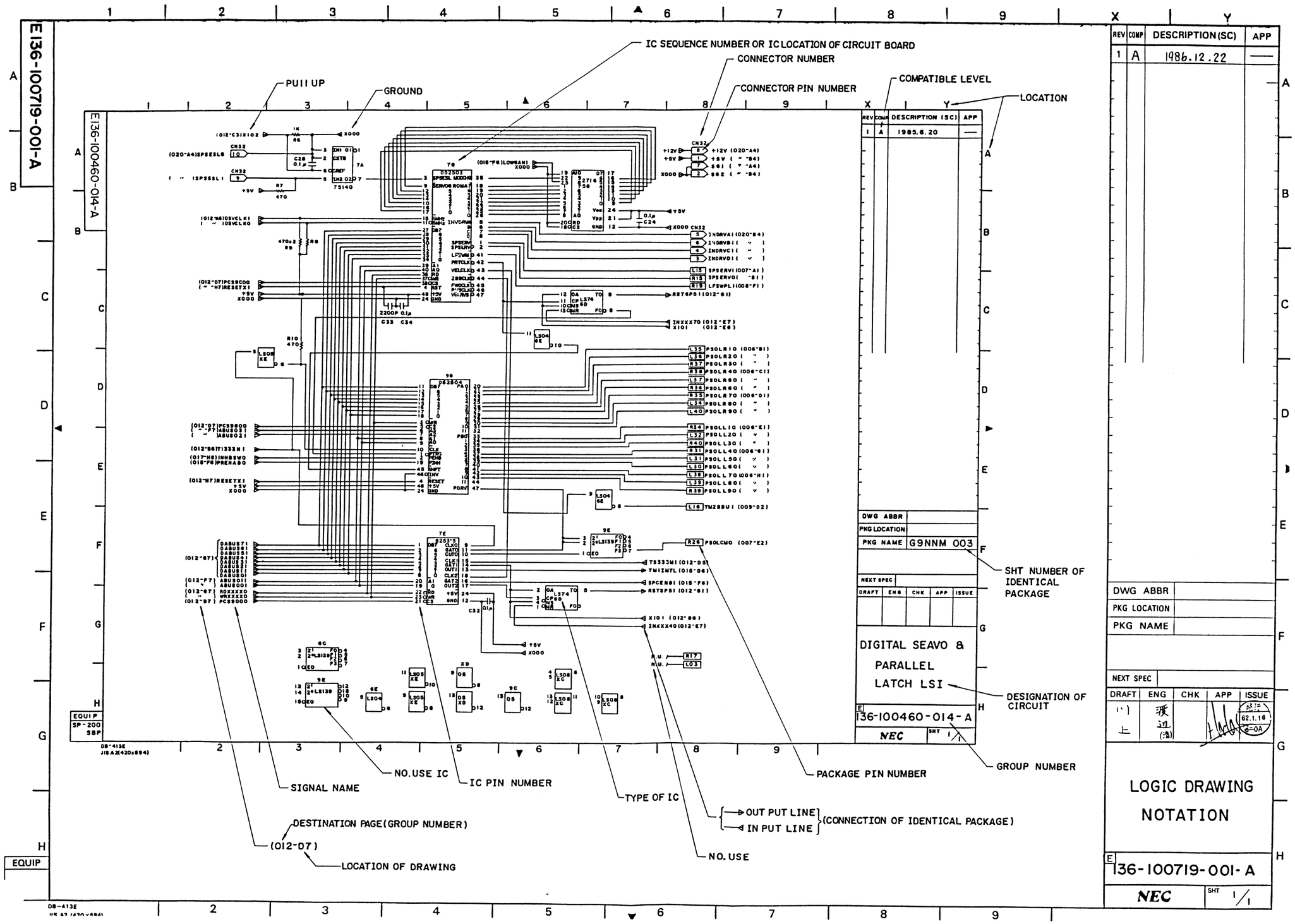
Section 8

Diagrams



This section contains diagrams for the Pinwriter P5.

DRAWING NO.	DESCRIPTION	PAGE
136-100719-001-A	Logic Drawing Notation	8-2
136-100719-002-A	Pin Number Indication	8-3
136-100720-001-A	Cable Connection	8-4
136-100721-001-A	Connector Wiring (Sheet 1 of 3)	8-5
136-100721-001-A	Connector Wiring (Sheet 2 of 3)	8-6
136-100721-001-A	Connector Wiring (Sheet 3 of 3)	8-7
136-100721-002-A	Power Supply	8-8
136-100721-003-A	Master MPU (Sheet 1 of 2)	8-9
136-100721-003-A	Master MPU (Sheet 2 of 2)	8-10
136-100721-004-A	I/O Control	8-11
136-100721-005-A	RAM	8-12
136-100721-006-A	Print Data Latch, Switch Matrix RAM&Buzzer	8-13
136-100721-007-A	Led Control Data Reverse Latch	8-14
136-100721-008-A	Centro I/F Control (Sheet 1 of 2)	8-15
136-100721-008-A	Centro I/F Control (Sheet 2 of 2)	8-16
136-100721-009-A	Slave MPU	8-17
136-100721-010-A	SP, LF Drive Circuit, Powon Reset Circuit, Fan Drive Circuit, Driver Powon Reset Circuit (Sheet 1 of 3)	8-18
136-100721-010-A	SP, LF Drive Circuit, Powon Reset Circuit, Fan Drive Circuit, Driver Powon Reset Circuit (Sheet 2 of 3)	8-19
136-100721-010-A	SP, LF Drive Circuit, Powon Reset Circuit, Fan Drive Circuit, Driver Powon Reset Circuit (Sheet 3 of 3)	8-20
136-100721-011-A	Head Drive (Sheet 1 of 2)	8-21
136-100721-011-A	Head Drive (Sheet 2 of 2)	8-22
136-100721-012-A	Head Drive (Sheet 1 of 2)	8-23
136-100721-012-A	Head Drive (Sheet 2 of 2)	8-24
136-100721-013-A	Power Connection (Sheet 1 of 2)	8-25
136-100721-013-A	Power Connection (Sheet 2 of 2)	8-26
136-100721-014-A	µPB610C-070 (Internal Equivalent Circuit)	8-27
136-100721-015-A	µPB610C-072 (Internal Equivalent Circuit)	8-28
136-100721-016-A	Power Supply	8-29
136-100721-017-A	HIC Internal Circuit	8-30
136-100721-018-A	Master FW ROM & CG ROM	8-31
136-100721-019-A	Operation	8-32
136-100721-020-A	CG ROM	8-33
136-100721-021-A	Option RAM	8-34
136-100721-022-A	RS-232C Option	8-35
136-100721-023-A	RS-232C Option	8-36
136-100721-024-A	Color Option	8-37
136-100721-025-A	Dual BIN Sheet Feeder	8-38
136-100722-001-A	G9WDBA PKG (Sheet 1 of 3)	8-41
136-100722-001-A	G9WDBA PKG (Sheet 2 of 3)	8-43
136-100722-001-A	G9WDBA PKG (Sheet 3 of 3)	8-45
136-100722-002-A	G9WDCA PKG (Sheet 1 of 3)	8-46
136-100722-002-A	G9WDCA PKG (Sheet 2 of 3)	8-47
136-100722-002-A	G9WDCA PKG (Sheet 3 of 3)	8-48
136-100722-003-A	G9WDDL PKG	8-49
136-100722-004-A	G9WDEA PKG	8-50
136-100722-005-A	G9WDFA PKG	8-51
136-100722-006-A	G9WDGA PKG	8-52
136-100722-007-A	G9WDHA PKG	8-53
136-100722-008-A	G9WDJA PKG	8-54
136-100722-009-A	G9WVDA PKG	8-55
136-100722-010-A	G9WRF PKG	8-56
136-100722-011-A	G9WDDD PKG	8-57
136-100722-012-A	G9WDDM PKG	8-58
136-100722-013-A	G9WDDJ PKG	8-59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E136-100460-014-A
IC SEQUENCE NUMBER OR IC LOCATION OF CIRCUIT BOARD
CONNECTOR NUMBER
CONNECTOR PIN NUMBER
COMPATIBLE LEVEL
LOCATION
PULL UP
GROUND
SIGNAL NAME
NO.USE IC
IC PIN NUMBER
TYPE OF IC
PACKAGE PIN NUMBER
GROUP NUMBER
DESTINATION PAGE(GROUP NUMBER)
(012-07)
LOCATION OF DRAWING
OUT PUT LINE
IN PUT LINE
(CONNECTION OF IDENTICAL PACKAGE)
NO.USE
SHT NUMBER OF IDENTICAL PACKAGE
DESIGNATION OF CIRCUIT
REV COMP DESCRIPTION (SC) APP
1 A 1985.6.20
DWG ABBR
PKG LOCATION
PKG NAME G9NNM 003
NEXT SPEC
DRAFT ENG CHK APP ISSUE
DIGITAL SEAVO & PARALLEL LATCH LSI
136-100460-014-A
NEC SHT 1/1
REV COMP DESCRIPTION (SC) APP
1 A 1986.12.22
DWG ABBR
PKG LOCATION
PKG NAME
NEXT SPEC
DRAFT ENG CHK APP ISSUE
62.1.16
LOGIC DRAWING NOTATION
136-100719-001-A
NEC SHT 1/1
EQUIP
SP-200 SBP
DB-413E

E136-100719-002-A

14PIN
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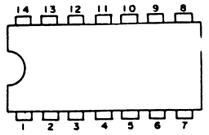
IC (TOP VIEW)



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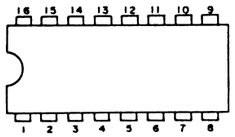
IC (TOP VIEW)



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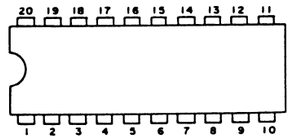
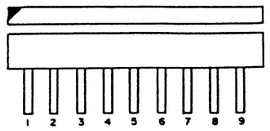


9 PIN
SINGLE-IN-LINE



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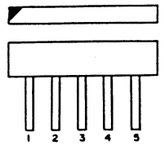
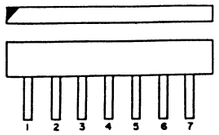


7 PIN
DIODE ARRAY



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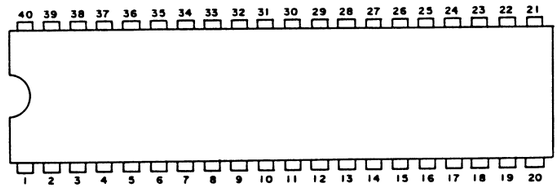
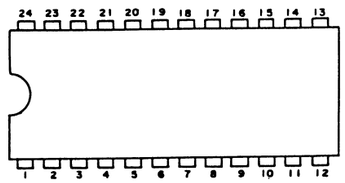
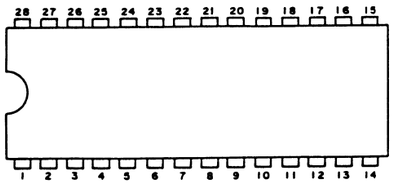
DUAL-IN-LINE
IC (TOP VIEW)



24PIN
DUAL-IN-LINE
IC (TOP VIEW)



28 PIN
DUAL-IN-LINE
IC (TOP VIEW)



64 PIN
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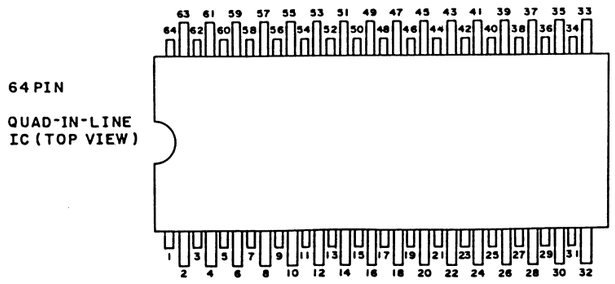
IC (TOP VIEW)



REV	COMP	DESCRIPTION (SC)	APP
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DWG ABBR	
PKG LOCATION	
PKG NAME	
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
(1) 上	渡辺			公行 62.1.18 改-0A

PIN NUMBER INDICATION

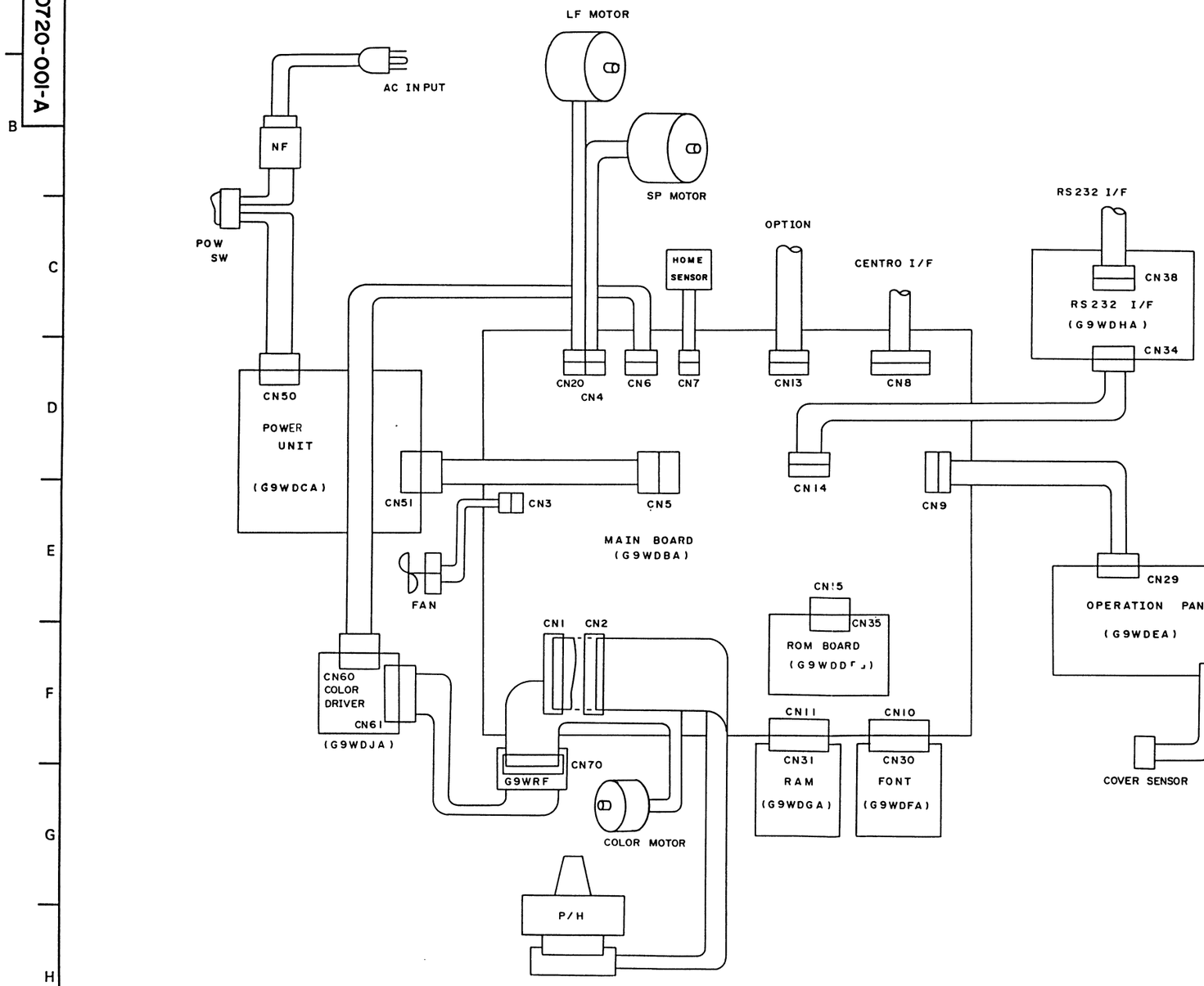
E 136-100719-002-A

NEC SHT 1/1

EQUIP

DB-413E

E136-100720-001-A



REV	COMP	DESCRIPTION(SC)	APP
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PKG LOCATION	
PKG NAME	
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
川上	渡辺			通行 62.1.16 第-0A

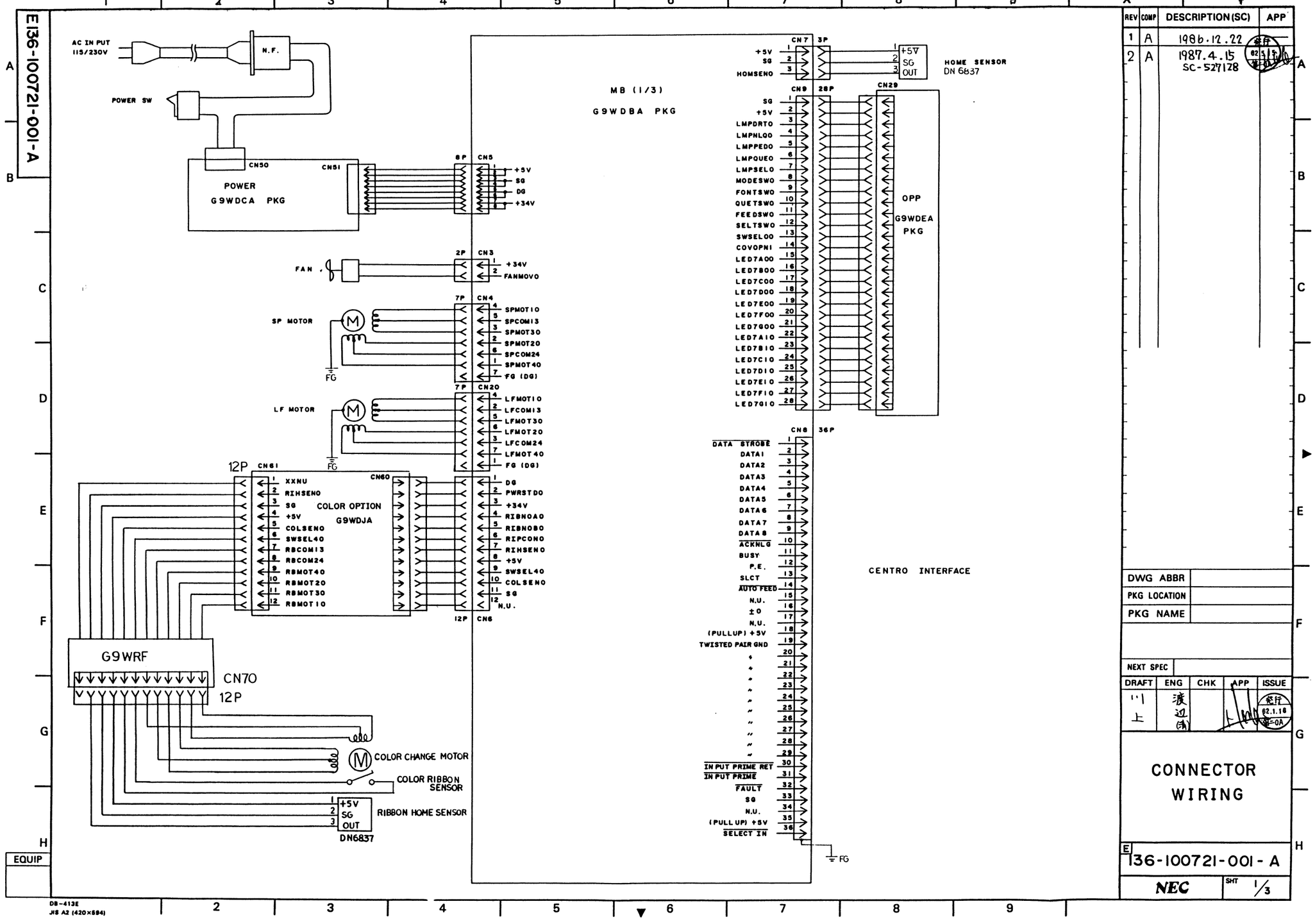
CABLE CONNECTION

E136-100720-001-A

NEC SHT 1/1

EQUIP

DB-413E
JIS A2 (420×594)



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2	A	1987.4.15 SC-527178	

DWG ABBR	
PKG LOCATION	
PKG NAME	
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
川上	渡辺(伸)			発行 02.1.16 SC-0A

CONNECTOR WIRING

E136-100721-001-A

NEC

SHT 1/3

E136-100721-001-A

MB (2/3)
G9WDBA

CN14 34P

SG	1
RSOCENI	2
+5V	3
RSDTB6I	4
RSDTB0I	5
RSPA3XI	6
RSDTB3I	7
RSDTB4I	8
RSINTIO	9
MASTSOI	10
IFAULTI	11
IFBUSYO	12
IFACKGI	13
RSDTWRI	14
PAPENDO	15
+5V	16
SG	17
SG	18
N.U	19
+5V	20
RSDTB7I	21
RSDTB2I	22
RSDTB1I	23
RSPA4XI	24
RSDTB5I	25
MASTSII	26
MASTS2I	27
IFSLCTO	28
IFENB5O	29
RSPB3XI	30
RSPB4XI	31
POWRSTO	32
+5V	33
SG	34

CN34 — OPTION RS-232C G9WDHA — CN38 25P

N.U	1
SD	2
RD	3
RS	4
CS	5
DR	6
SG	7
CD	8
N.U	9
N.U	10
SCAEP	11
N.U	12
+	13
"	14
"	15
"	16
"	17
"	18
SCA	19
ER	20
N.U	21
"	22
"	23
"	24
"	25

RS-232C INTERFACE

FG

CN1, 2 18P×2

PHCLI23	1-5		
PHEDLOI	2-13	PRCLLOI	(2)
PHEDLO2	2-14	PRCLLO2	(4)
PHEDLO3	2-15	PRCLLO3	(6)
PHCL456	1-7		
PHEDLO4	2-16	PRCLLO4	(8)
PHEDLO5	2-17	PRCLLO5	(10)
PHEDLO6	2-18	PRCLLO6	(12)
PHCL789	2-12		
PHEDLO7	1-3	PRCLLO7	(14)
PHEDLO8	1-1	PRCLLO8	(16)
PHEDLO9	1-2	PRCLLO9	(18)
PHCLII2	2-11		
PHEDLIO	1-4	PRCLLIO	(20)
PHEDLII	1-6	PRCLLII	(22)
PHEDLI2	1-8	PRCLLI2	(24)
PHCRI23	1-14		
PHEDRO1	2-6	PRCLRO1	(1)
PHEDRO2	2-5	PRCLRO2	(3)
PHEDRO3	2-4	PRCLRO3	(5)
PHCR456	1-12		
PHEDRO4	2-3	PRCLRO4	(7)
PHEDRO5	2-2	PRCLRO5	(9)
PHEDRO6	2-1	PRCLRO6	(11)
PHCR789	2-7		
PHEDRO7	1-15	PRCLRO7	(13)
PHEDRO8	1-17	PRCLRO8	(15)
PHEDRO9	1-18	PRCLRO9	(17)
PHCRII2	2-8		
PHEDRIO	1-16	PRCLRIO	(19)
PHEDRII	1-13	PRCLRII	(21)
PHEDRI2	1-11	PRCLRI2	(23)
FIDTMPI	2-9	TEMPERATURE SENSOR	20℃ 50KΩ (Typ) / 80℃ 6.3KΩ (") / 150℃ 1.1KΩ (")
SG	2-10		
DG	1-9	HEAD GND	
DG	1-10		

FG

CUT SHEET GUIDE

PAPER SENSOR EE-SF5-P7 — OUT, +, −

Anot Ins.SW — NO, C

CN13 18P

1	XNU
2	PAPOUTO
3	+5V
4	SG
5	DISPOTI
6	XNU
7	SG
8	DISPOT3
9	SHTFEDO
10	DISPOT2
11	DG
12	"
13	DRIVEIO
14	PWRSTDO
15	+34V
16	"
17	2BINLOO
18	2BINLIO

REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	—
2	A	1987.4.15	

DWG ABBR	
PKG LOCATION	
PKG NAME	
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
上	渡辺			

CONNECTOR WIRING

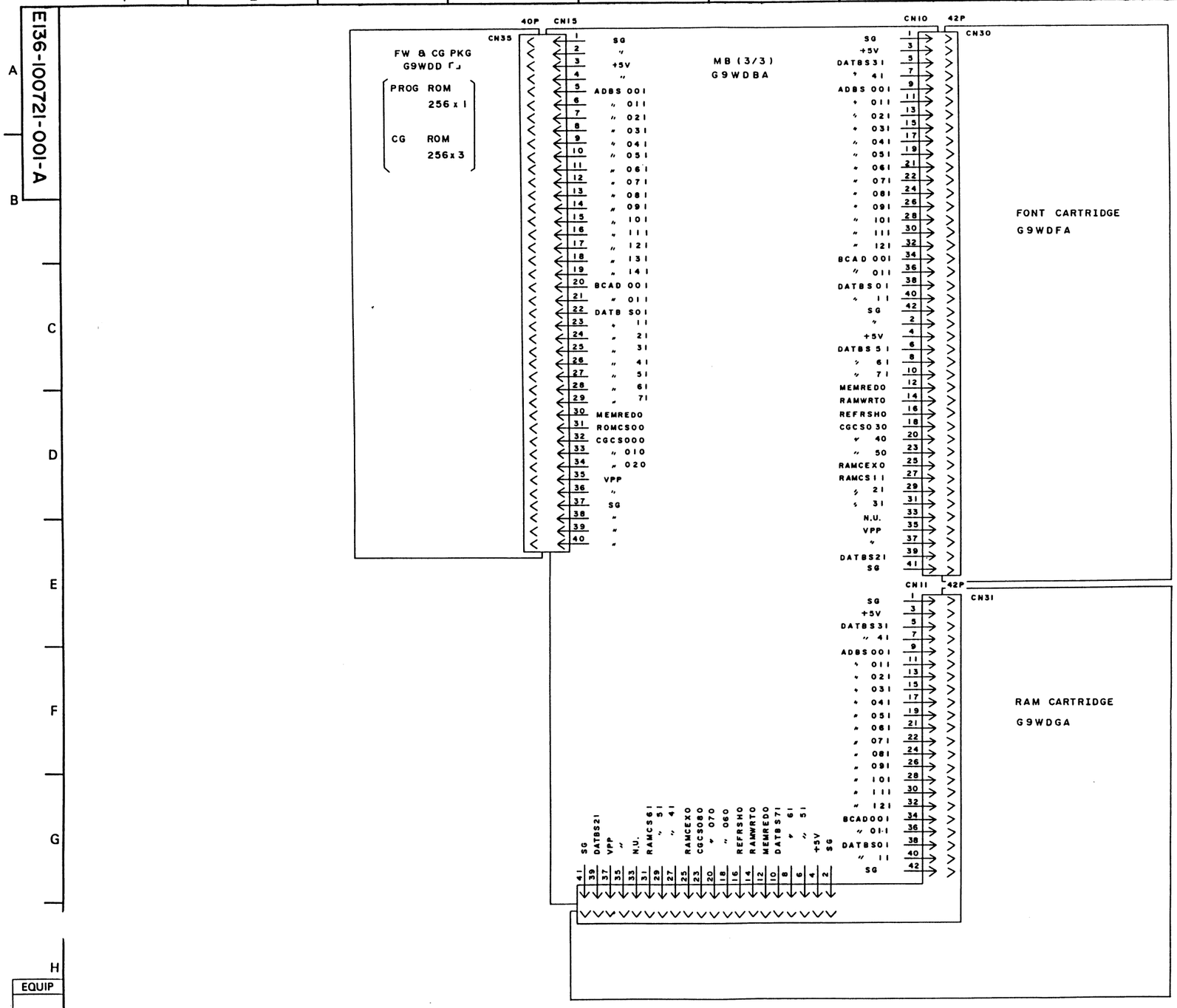
E 136-100721-001-A

NEC SHT 2/3

EQUIP

DB-413E
JIS A2 (420×594)

E136-100721-001-A



REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	—
2	A	1989.4.15	

DWG ABBR	
PKG LOCATION	
PKG NAME	
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
11 上	渡辺			

CONNECTOR WIRING

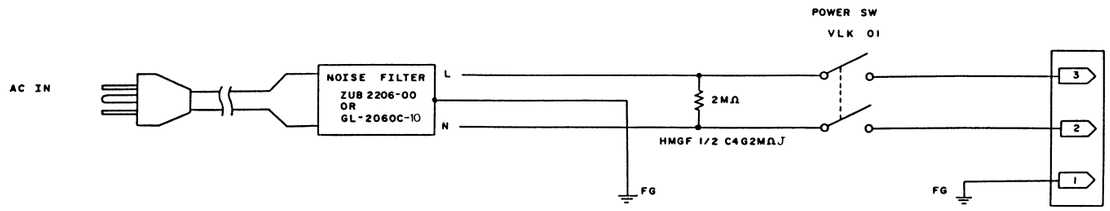
E 136-100721-001-A

NEC SHT 3/3

EQUIP

DB-413E
JIS A2 (420×594)

E136-100721-002-A



REV	COMP	DESCRIPTION (SC)	APP
1	A	1986.12.22	——

DWG ABBR	
PKG LOCATION	
PKG NAME	

NEXT SPEC				
DRAFT	ENG	CHK	APP	ISSUE
小上	渡辺(浦)			発行

POWER SUPPLY

E136-100721-002-A

NEC

SHT 1/1

EQUIP

DB-413E
JIS A2 (420×594)

E136-100721-003-A

REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	
2	A	1987.4.15 SC-52712	

PKG REV「H3F」

DWG ABBR	
PKG LOCATION	
PKG NAME	G9WDBA 001
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
(1) 上	渡辺			承行 62.1.16

MASTER MPU

E 136-100721-003-A

NEC SHT 1/2

EQUIP

DB-413E
JIS A2 (420×594)

E136-100721-003-A

REV	COMP	DESCRIPTION (SC)	APP
1	A	1986.12.22	—
2	A	1987.4.15	

PKG REV [H5C] ~

DWG ABBR	
PKG LOCATION	
PKG NAME	G9WDBA 001
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
1) 上	渡辺			

MASTER MPU

E 136-100721-003-A

NEC SHT 2/2

EQUIP

DB-413E
JIS A2 (420×594)

E136-100721-004-A

REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	
2	A	1987.4.15 SC-527128	

PKG REV [H3F] ~

DWG ABBR	
PKG LOCATION	
PKG NAME	G9WDBA 002
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
川上	渡辺			62.1.16

I/O CONTROL

E
136-100721-004-A

NEC SHT 1/1

EQUIP

DB-413E
JIS A2 (420×594)

E136-100721-005-A

REV	COMP	DESCRIPTION (SC)	APP
1	A	1986.12.22	
2	A	1987.4.15 SC-527128	

PKG REV H3E ~

DWG ABBR	
PKG LOCATION	
PKG NAME	G9WDBA 003
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
(1)				

RAM

E136-100721-005-A

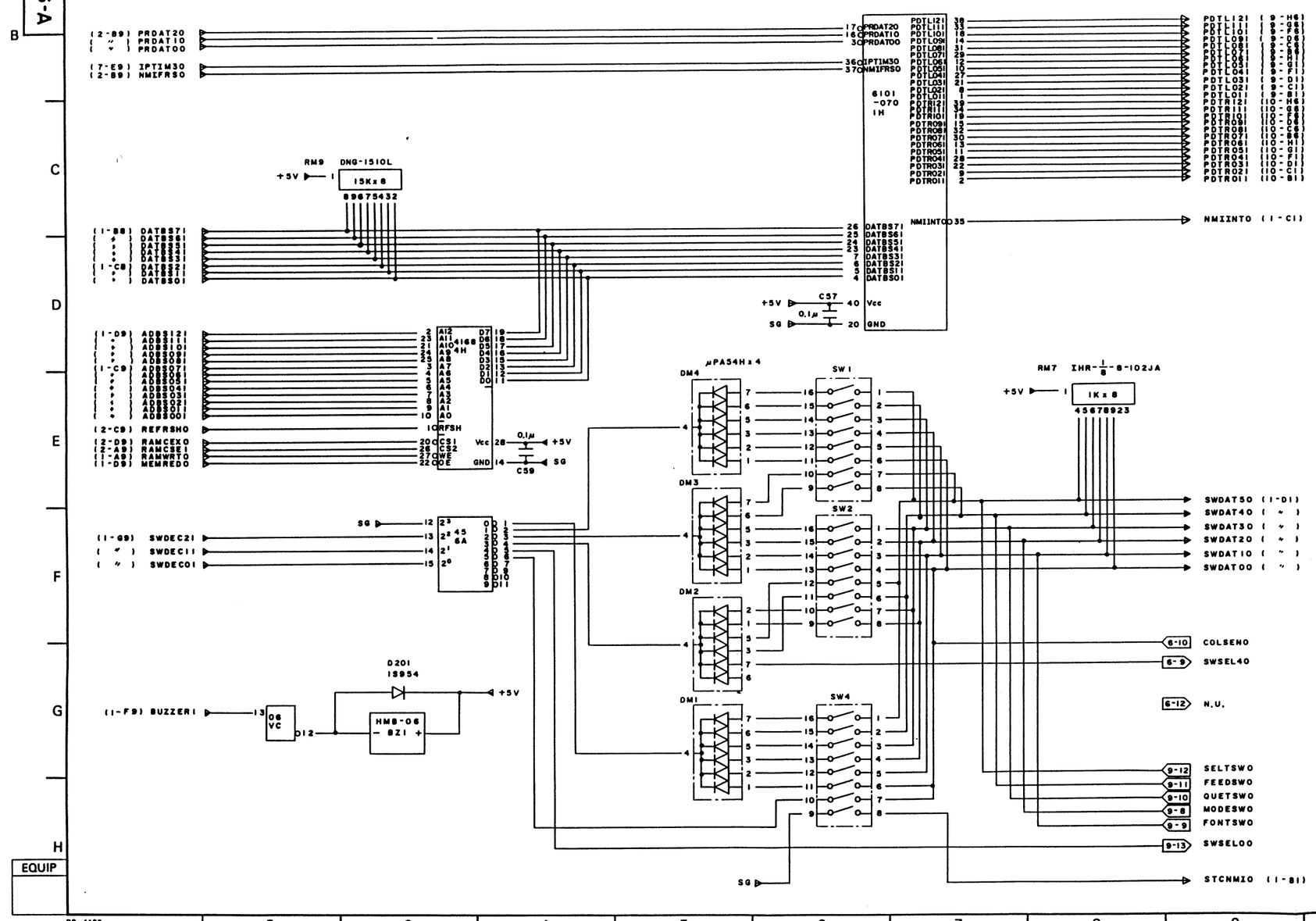
NEC SHT 1/1

EQUIP

DB-413E
JIS A2 (420×594)

E136-100721-006-A

REV	COMP	DESCRIPTION (SC)	APP
1	A	1986.12.22	
2	A	1987.4.15 SC-5291283-07	



PKG REV H3F ~

DWG ABBR	
PKG LOCATION	
PKG NAME	G9WDBA 004
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
い) 上	渡辺(伸)			82.1.18

PRINT DATA LATCH
SW MATRIX
RAM & BUZZER

E 136-100721-006-A

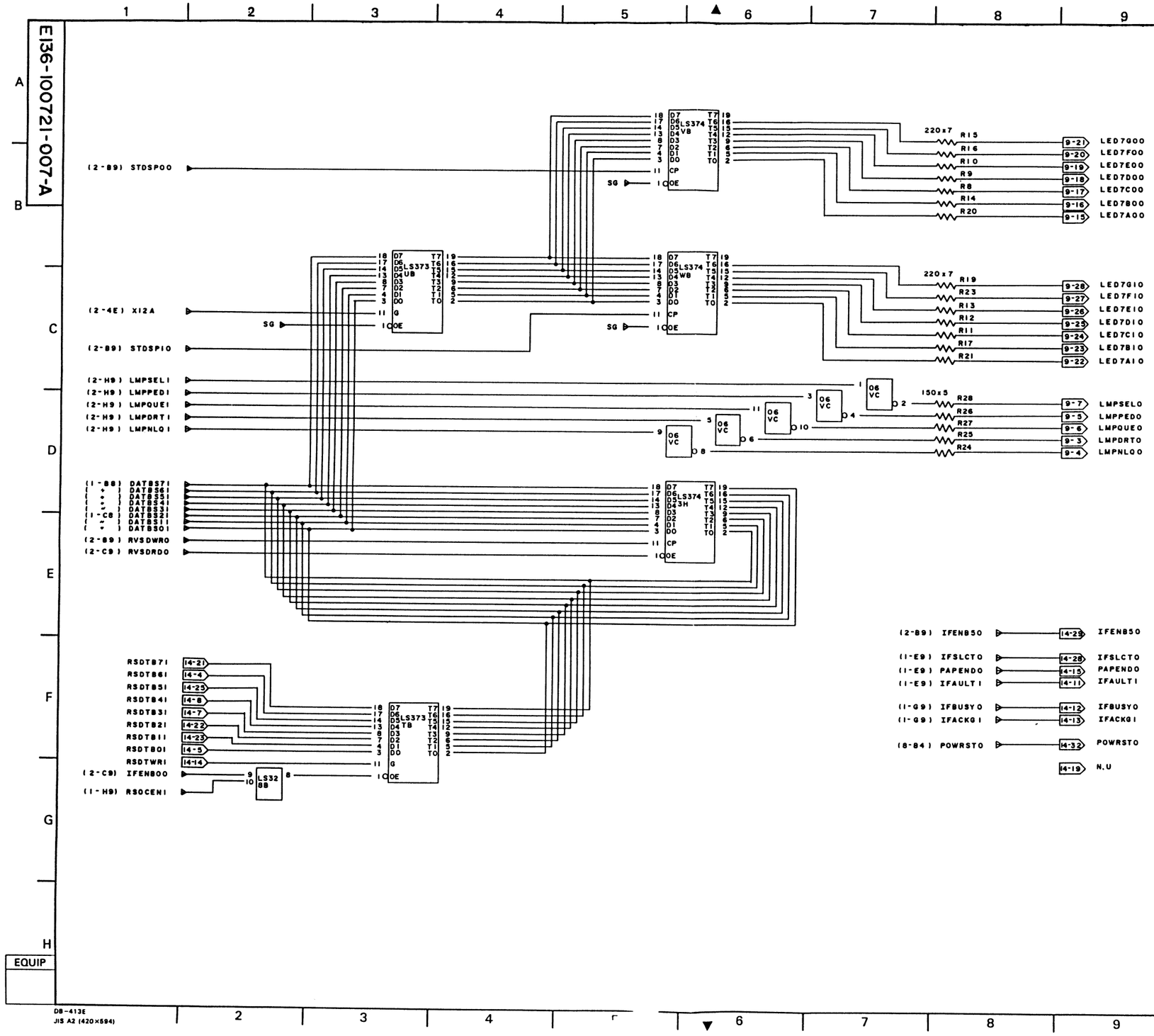
NEC SHT 1/1

EQUIP

DB-413E
JIS A2 (420×594)

E136-100721-007-A

REV	COMP	DESCRIPTION (SC)	APP
1	A	1986.12.22	—
2	A	1987.4.15 SC-527128	62.5.13 M-0A



PKG REV「H3F」~

DWG ABBR	
PKG LOCATION	
PKG NAME	G9WDBA 005
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
(1) 1	渡辺			発行 62.1.16 M-0A

LED CONTROL DATA REVERSE LATCH

E 136-100721-007-A

NEC SHT 1/1

EQUIP

DB-413E
JIS A2 (420×594)

E136-100721-008-A

REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	
2	A	1987.4.15 SC-527128	

PKG REV H3E, H5C, H6B

DWG ABBR	
PKG LOCATION	
PKG NAME	G9WDBA 006
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
(1) 上	渡辺			

CENTRO I/F CONTROL

136-100721-008-A

NEC SHT 1/2

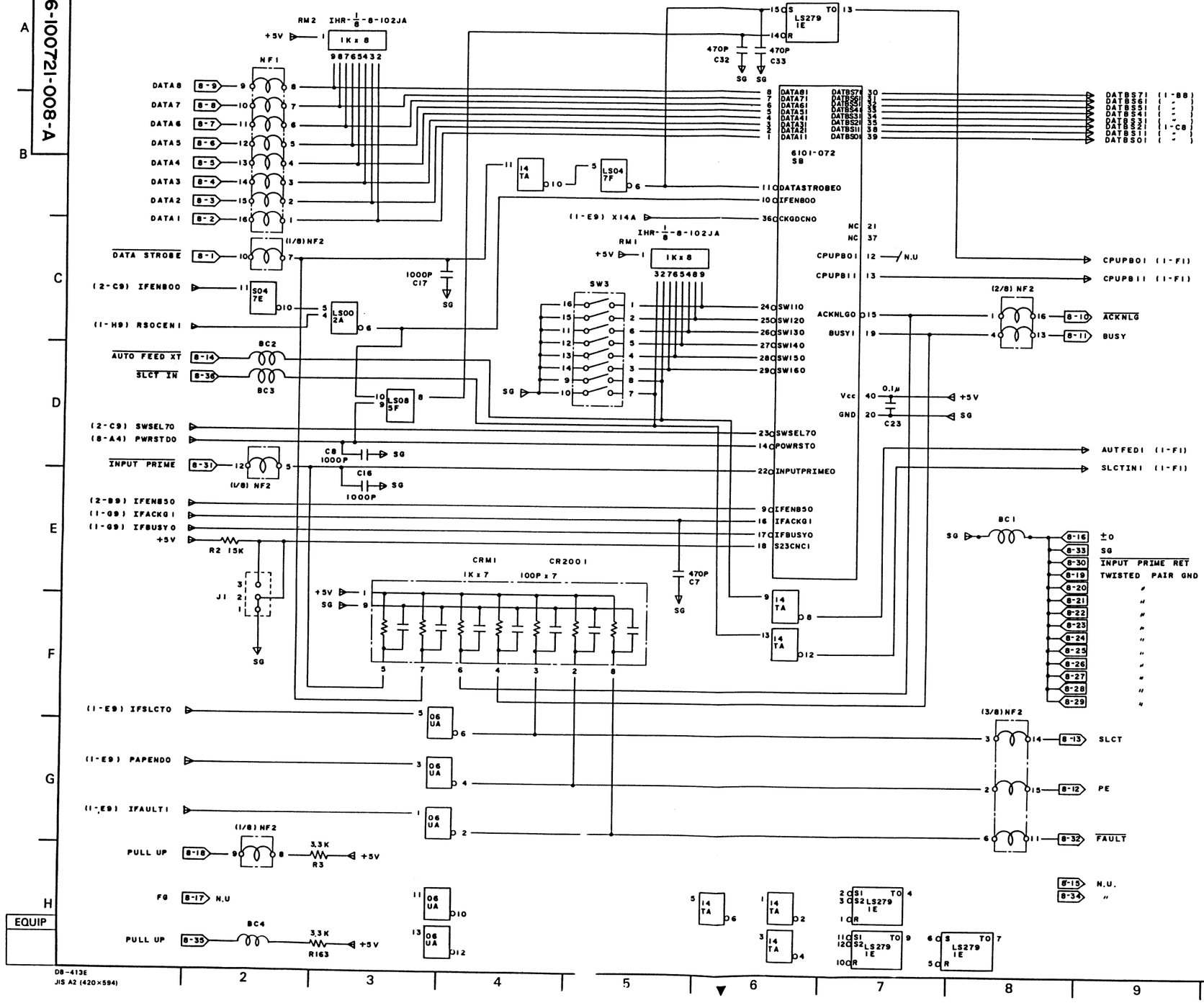
EQUIP

DB-413E
JIS A2 (420×594)

8-15

E136-100721-008-A

REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	—
2	A	1987.4.15	



PKG REV H7~

DWG ABBR	
PKG LOCATION	
PKG NAME	G9WDBA006
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
11) 上	渡辺			

CENTRO I/F CONTROL

E 136-100721-008-A

NEC SHT 2/2

DB-413E
JIS A2 (420×594)

E136-100721-009-A

REV	COMP	DESCRIPTION (SC)	APP
1	A	1986.12.22	—
2	A	1987.4.15 SC-527128	

PKG REV H3E~

DWG ABBR	
PKG LOCATION	
PKG NAME	G9WDBA 007
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
(1) 上	渡辺			承行 62.1.16 E-0A

SLAVE MPU

E136-100721-009-A

NEC SHT 1/1

EQUIP

DB-413E
JIS A2 (420×594)

8-17

E136-100721-010-A

REV	COMP	DESCRIPTION (SC)	APP
1	A	1986.12.22	
2	A	1987.4.1 SC-527128	

PKG REV H3E

DWG ABBR	
PKG LOCATION	
PKG NAME	G9WDBA008
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
11 上	渡辺			発行 62.1.16 H3-0A

SP, LF DRIVE CIRCUIT
POWON RESET CIRCUIT
FAN DRIVE CIRCUIT
DRIVER POW ON RESET CIRCUIT

E136-100721-010-A

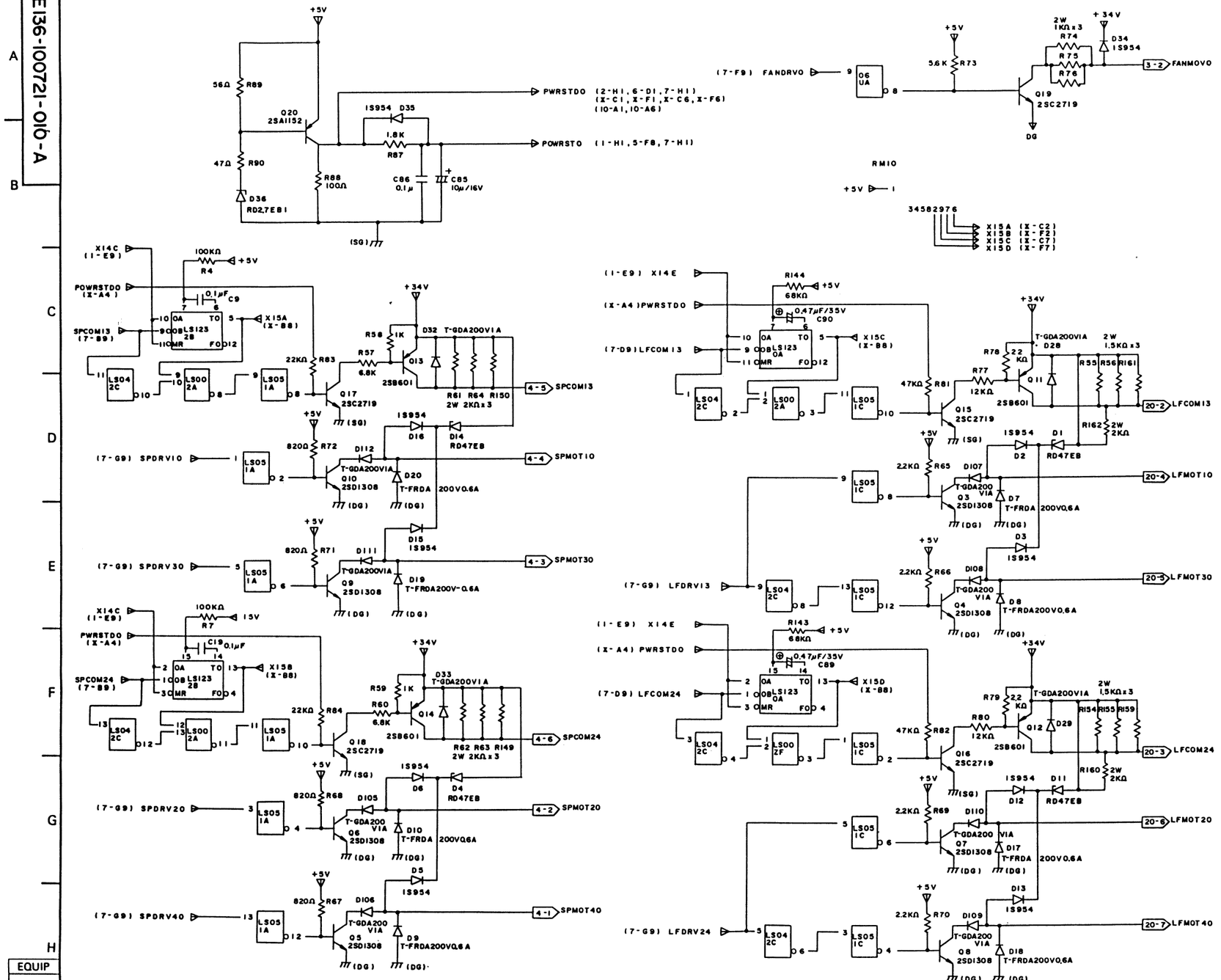
NEC SHT 1/3

EQUIP

D8-413E
JIS A2 (420×594)

E136-100721-010-A

REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	——
2	A	1987.4.15	



NOTE: AFTER PKG REV H11; DESIGNATION OF DIODES D2, D3, D5, D6, D12, D13, D15, D16 AND D34 MUST BE CHANGED FROM 1S954 TO T-GDA200V1A

PKG REV H5C

DWG ABBR	
PKG LOCATION	
PKG NAME	G9WDBA 008
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
11	張			
上	辺			

SP, LF DRIVE CIRCUIT
POWONRESET CIRCUIT
FAN DRIVE CIRCUIT
DRIVER POWON RESET CIRCUIT

E 136-100721-010-A

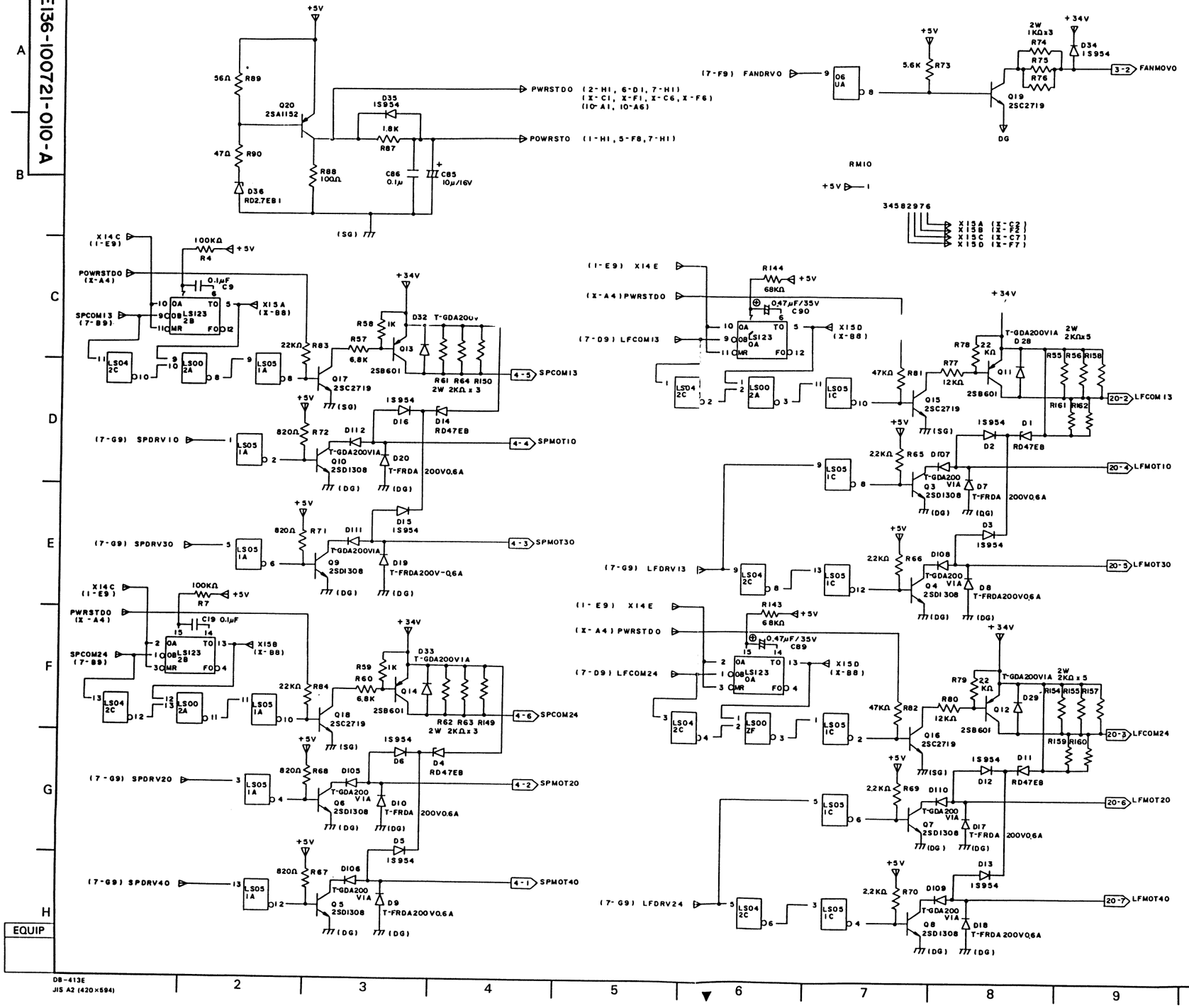
NEC SHT 2/3

EQUIP

DB-413E
JIS A2 (420×594)

E136-100721-010-A

REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	—
2	A	1987.4.15	



PKG REV [H6B] ~

DWG ABBR	
PKG LOCATION	
PKG NAME	G9WDBA 008
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
上	渡辺(清)			

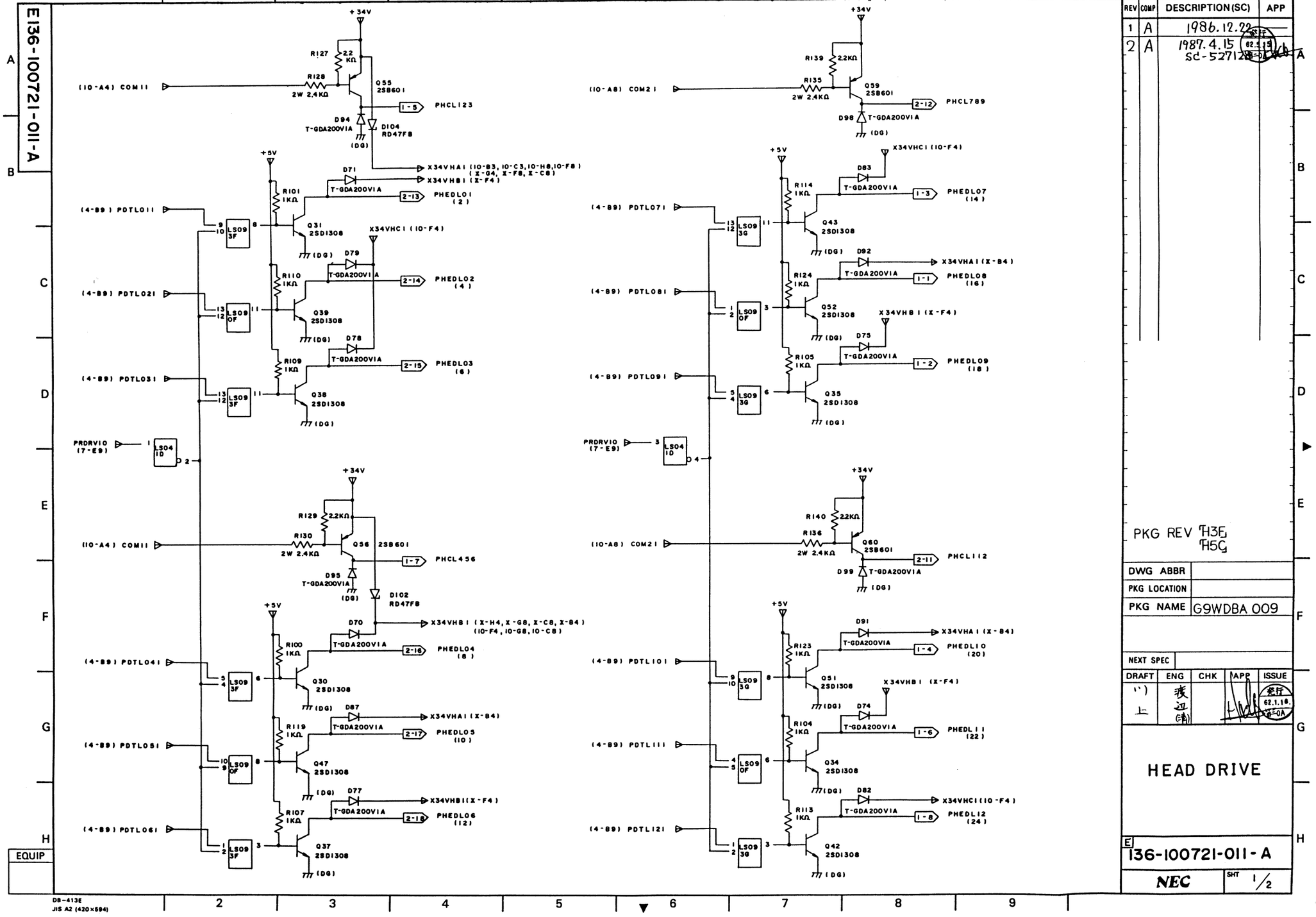
SP, LF DRIVE CIRCUIT
POW ON RESET CIRCUIT
FAN DRIVE CIRCUIT
DRIVER POW ON RESET CIRCUIT

E 136-100721-010-A

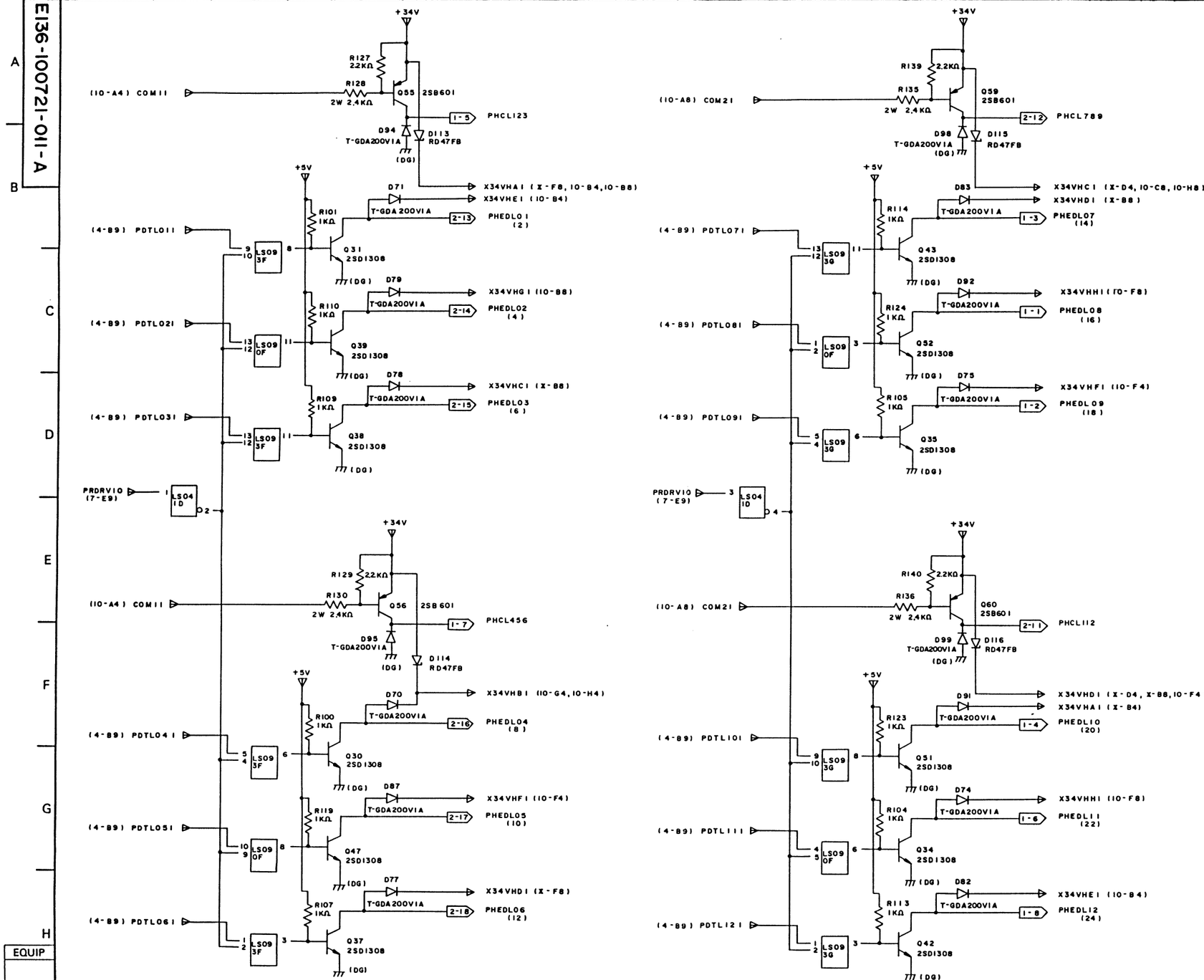
NEC SHT 3/3

EQUIP

DB-413E
JIS A2 (420×594)


E136-100721-011-A
+34V
R127 2.2 KΩ
R128 2W 2.4KΩ
(10-A4) COM11
Q55 2SB601
1-5 PHCL123
D94 T-GDA200V1A
D104 RD47FB
(DG)
X34VHA1 (10-B3, 10-C3, 10-H8, 10-F8) (X-G4, X-F8, X-C8)
+5V
D71
X34VHB1 (X-F4)
R101 1KΩ
T-GDA200V1A
2-13 PHEDL01 (2)
(4-89) PDTL011
LS09 3F
Q31 2SD1308
X34VHC1 (10-F4)
D79
R110 1KΩ
2-14 PHEDL02 (4)
(4-89) PDTL021
LS09 0F
Q39 2SD1308
D78
R109 1KΩ
2-15 PHEDL03 (6)
(4-89) PDTL031
Q38 2SD1308
PRDRV10 (7-E9)
LS04 1D
+34V
R129 2.2KΩ
R130 2W 2.4KΩ
(10-A4) COM11
Q56 2SB601
1-7 PHCL456
D95 T-GDA200V1A
D102 RD47FB
(DG)
+5V
D70
X34VHB1 (X-H4, X-G8, X-C8, X-B4) (10-F4, 10-G8, 10-C8)
R100 1KΩ
T-GDA200V1A
2-16 PHEDL04 (8)
(4-89) PDTL041
LS09 3F
Q30 2SD1308
D87
X34VHA1 (X-B4)
R119 1KΩ
2-17 PHEDL05 (10)
(4-89) PDTL051
LS09 0F
Q47 2SD1308
D77
X34VHB1 (X-F4)
R107 1KΩ
2-18 PHEDL06 (12)
(4-89) PDTL061
LS09 3F
Q37 2SD1308
+34V
R139 2.2KΩ
R135 2W 2.4KΩ
(10-A8) COM21
Q59 2SB601
2-12 PHCL789
D98 T-GDA200V1A
(DG)
+5V
X34VHC1 (10-F4)
D83
R114 1KΩ
T-GDA200V1A
1-3 PHEDL07 (14)
(4-89) PDTL071
LS09 3G
Q43 2SD1308
D92
X34VHA1 (X-B4)
R124 1KΩ
1-1 PHEDL08 (16)
(4-89) PDTL081
LS09 0F
Q52 2SD1308
X34VHB1 (X-F4)
D75
R105 1KΩ
1-2 PHEDL09 (18)
(4-89) PDTL091
LS09 3G
Q35 2SD1308
PRDRV10 (7-E9)
LS04 1D
+34V
R140 22KΩ
R136 2W 2.4KΩ
(10-A8) COM21
Q60 2SB601
2-11 PHCL112
D99 T-GDA200V1A
(DG)
+5V
D91
X34VHA1 (X-B4)
R123 1KΩ
T-GDA200V1A
1-4 PHEDL10 (20)
(4-89) PDTL101
LS09 3G
Q51 2SD1308
X34VHB1 (X-F4)
D74
R104 1KΩ
T-GDA200V1A
1-6 PHEDL11 (22)
(4-89) PDTL111
LS09 0F
Q34 2SD1308
D82
X34VHC1 (10-F4)
R113 1KΩ
T-GDA200V1A
1-8 PHEDL12 (24)
(4-89) PDTL121
LS09 3G
Q42 2SD1308
EQUIP
DB-413E
JIS A2 (420×594)
REV
COMP
DESCRIPTION (SC)
APP
1 A 1986.12.22
2 A 1987.4.15 SC-527128
PKG REV H3E, H5G
DWG ABBR
PKG LOCATION
PKG NAME G9WDBA 009
NEXT SPEC
DRAFT
ENG
CHK
APP
ISSUE
HEAD DRIVE
E 136-100721-011-A
NEC
SHT 1/2

E136-100721-011-A



REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	—
2	A	1987.4.15	

PKG REV H6B~

DWG ABBR	
PKG LOCATION	
PKG NAME	G9WDBA 009
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
11 上	我辺 (鎌)			

HEAD DRIVE

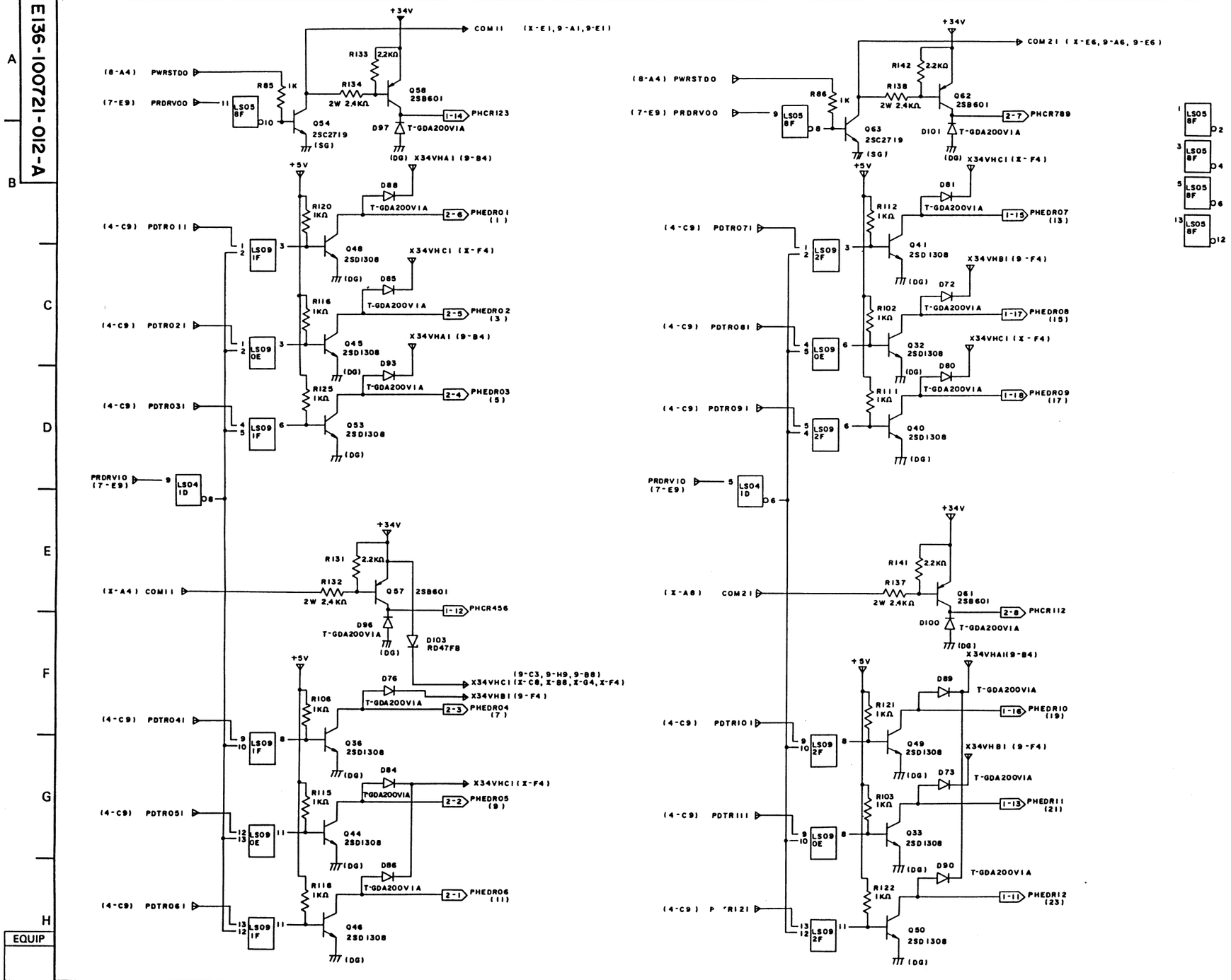
E136-100721-011-A

NEC SHT 2/2

EQUIP

DB-413E
JIS A2 (420×594)

E136-100721-012-A



REV	COMP	DESCRIPTION (SC)	APP
1	A	1986.12.22	
2	A	1987.4.15 SC-527128	

PKG REV H3E, H5C

DWG ABBR	
PKG LOCATION	
PKG NAME	G9WDBA 010
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
11) 上	渡辺			

HEAD DRIVE

E136-100721-012-A

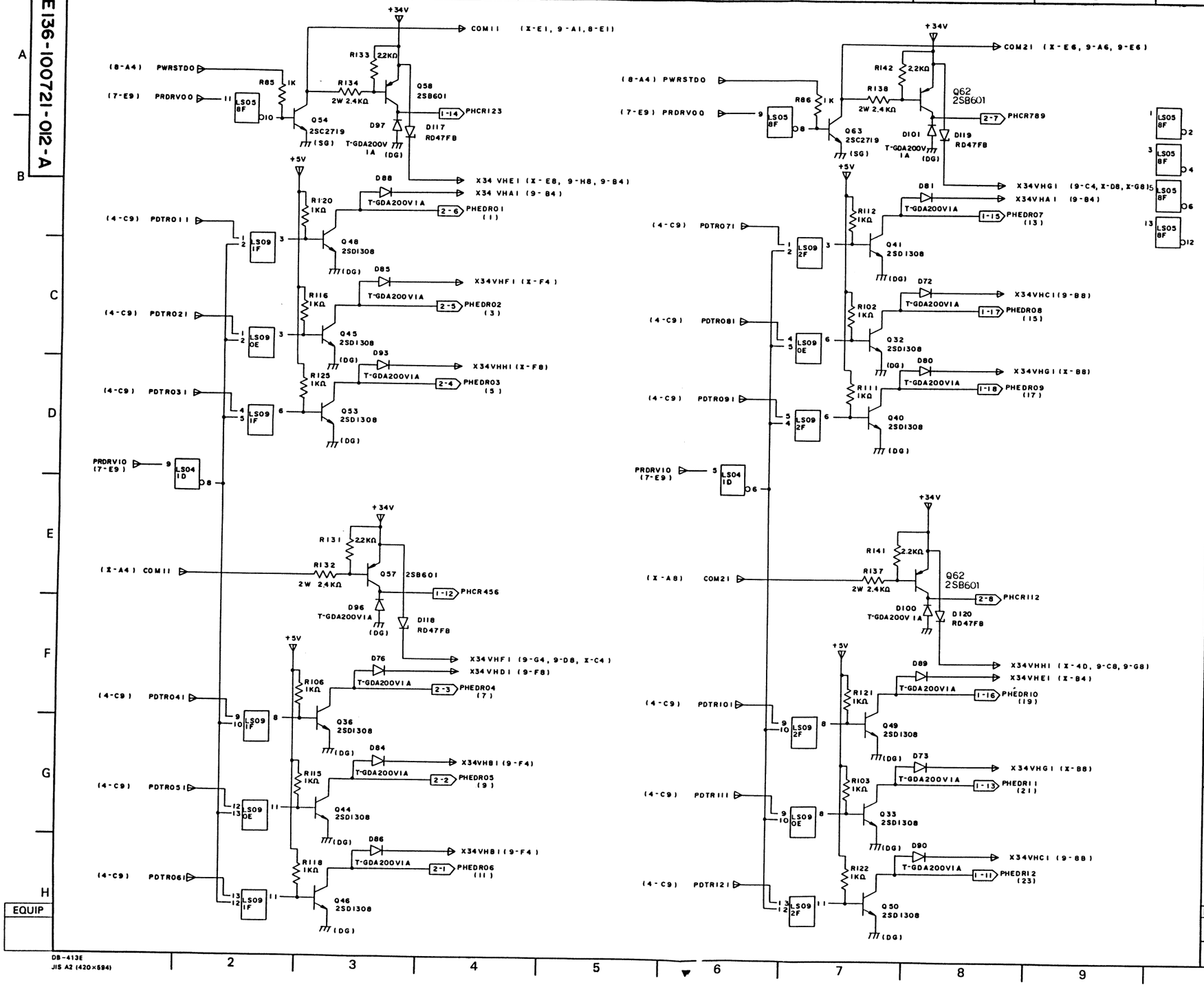
NEC SHT 1/2

EQUIP

DB-413E
JIS A2 (420×594)

E136-100721-012-A

REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	—
2	A	1987.4.15	



PKG REV H6B~

DWG ABBR	
PKG LOCATION	
PKG NAME	G9WDBA 010
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
山上	渡辺(清)			

HEAD DRIVE

E 136-100721-012-A

NEC SHT 2/2

EQUIP

DB-413E
JIS A2 (420×594)

E136-100721-013-A

REV	COMP	DESCRIPTION (SC)	APP
1	A	1986.12.22	
2	A	1987.4.15 SC-527128	

PKG REV H3E H5G

DWG ABBR	
PKG LOCATION	
PKG NAME	G9WDBA 011
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
川上	渡辺			承行 62.1.16 改-0A

POWER CONNECTION

E136-100721-013-A

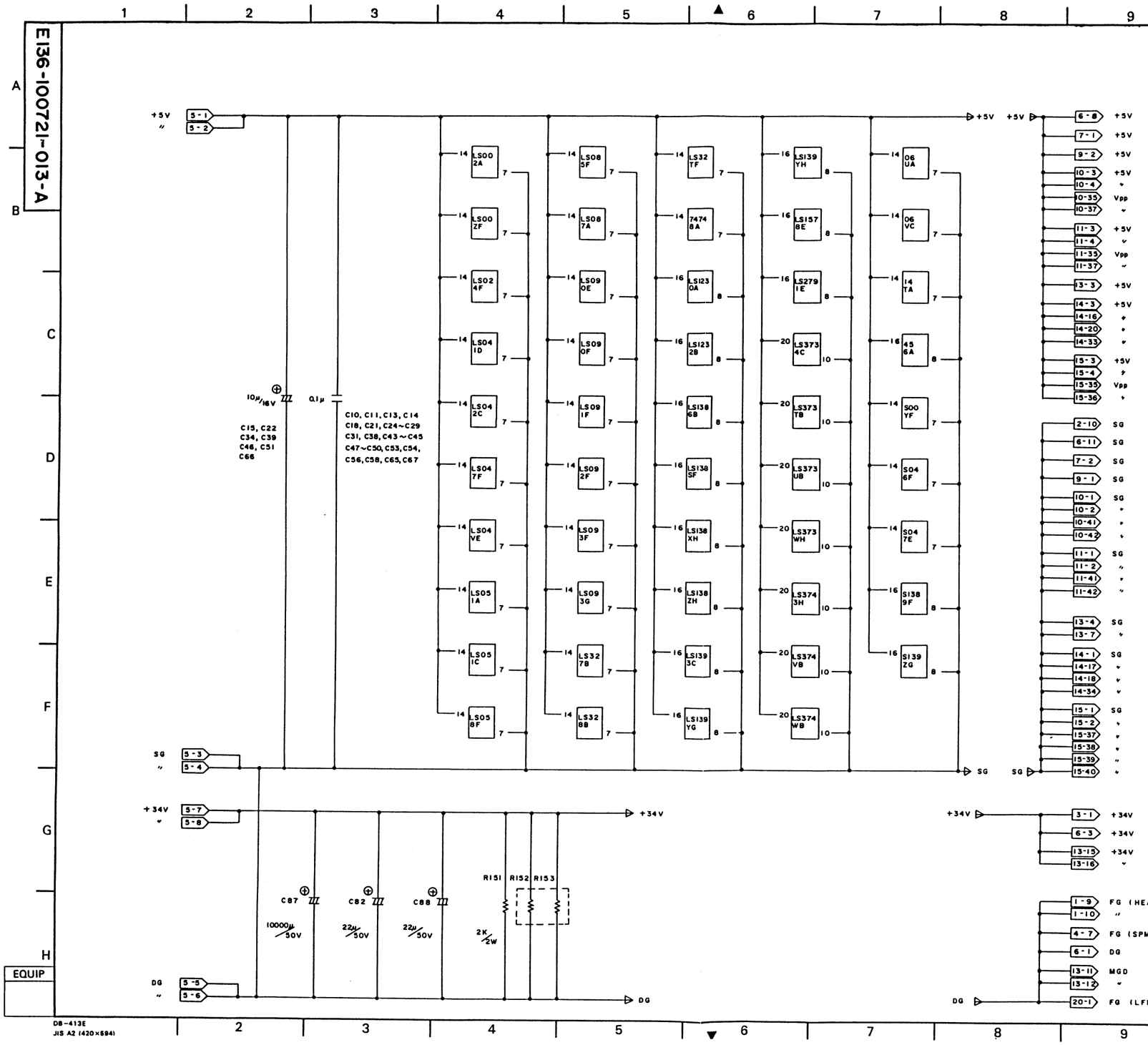
NEC SHT 1/2

EQUIP

DB-413E
JIS A2 (420×594)

E136-100721-013-A

REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	—
2	A	1987.4.15	



PKG REV 「H6B」~

DWG ABBR	
PKG LOCATION	
PKG NAME	G9WDBA 011
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
川上	渡辺晴			

POWER CONNECTION

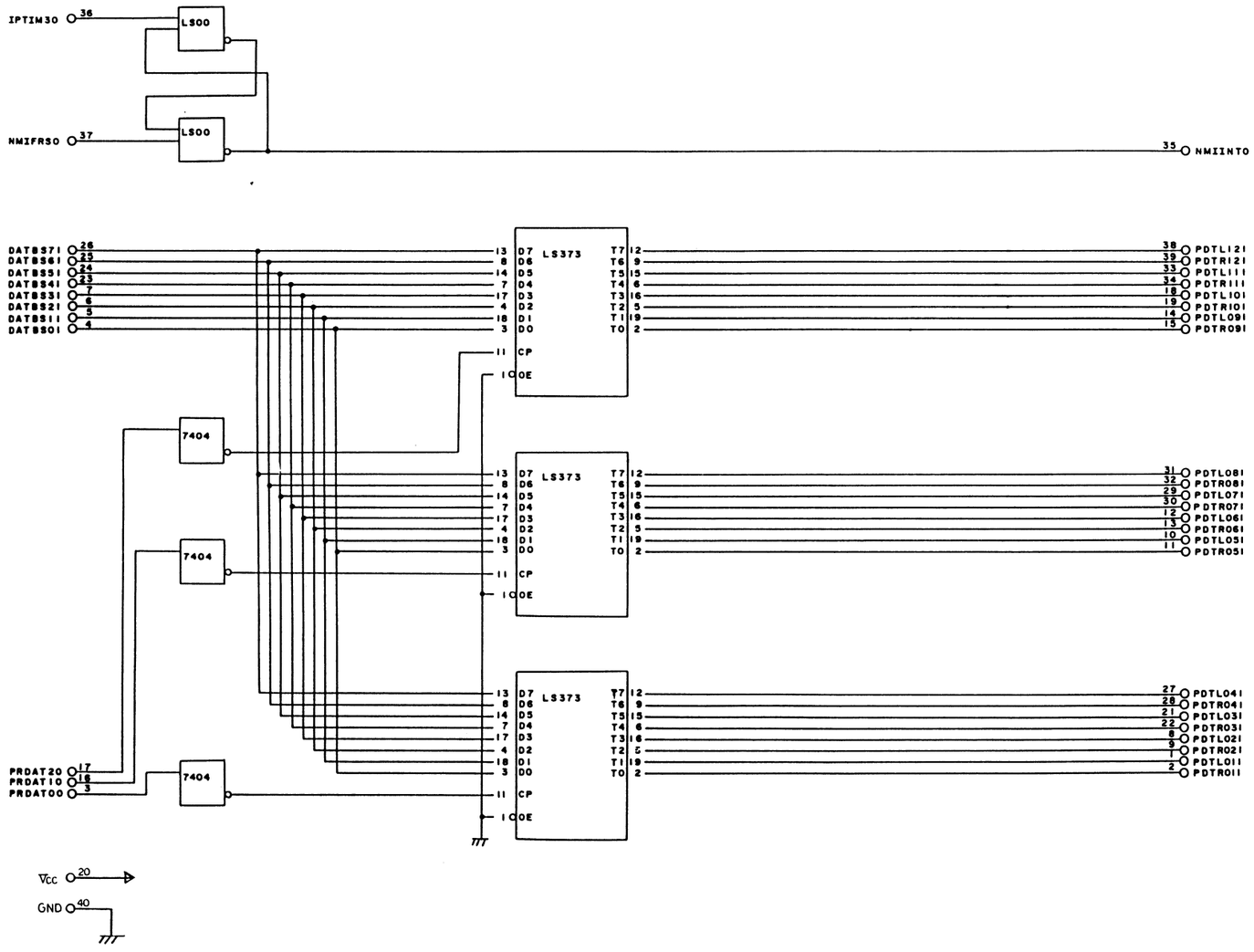
E136-100721-013-A

NEC SHT 2/2

DB-413E
JIS A2 (420×594)

E136-100721-014-A

REV	COMP	DESCRIPTION (SC)	APP
1	A	1986.12.28	
2	A	1987.4.1 SC-5297128	



DWG ABBR	
PKG LOCATION	
PKG NAME	G9WDBA012
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
川上	渡辺			発行 62.1.18

μPB6101C-070 INTERNAL EQUIVALENT CIRCUIT

E 136-100721-014-A

NEC SHT 1/1

EQUIP

DB-413E
JIS A2 (420×594)

E136-100721-015-A

DATA1I 1 — 7404 — 18 D7 LS373 T7 19 — 39 DATBS0I
DATA2I 2 — 7404 — 17 D6 T6 16 — 38 DATBS1I
DATA3I 3 — 7404 — 14 D5 T5 15 — 35 DATBS2I
DATA4I 4 — 7404 — 13 D4 T4 12 — 34 DATBS3I
DATA5I 5 — 7404 — 8 D3 T3 9 — 33 DATBS4I
DATA6I 6 — 7404 — 7 D2 T2 6 — 32 DATBS5I
DATA7I 7 — 7404 — 4 D1 T1 5 — 31 DATBS6I
DATA8I 8 — 7404 — 3 D0 T0 2 — 30 DATBS7I
DATA STROBEO 11 — 7414 — 11 G
IFENB00 10 — 1 OE

18 D7 LS373 T7 19 — 39 DATBS0I
17 D6 T6 16 — 38 DATBS1I
14 D5 T5 15 — 35 DATBS2I
13 D4 T4 12 — 34 DATBS3I
8 D3 T3 9 — 33 DATBS4I
7 D2 T2 6 — 32 DATBS5I
4 D1 T1 5 — 31 DATBS6I
3 D0 T0 2 — 30 DATBS7I
Vcc — 11 G
1 OE

SW11O 24
SW12O 25
SW13O 26
SW14O 27
SW15O 28
SW16O 29
CKGDCNO 36
SWSEL7O 23
POWRSTO 14

LS04 — A — C — LS04 — D — 12 CPUPB0I
B — Z0 — RST — D

SG — 12 0A 7474 T0 9 — LS04 — 13 CPUPB1I
11 CP
10 PS
13 MR F0 8

INPUT PRIMEO 22 — 7414 — LS04
IFENB5O 9

IFACKG1 16 — (B) — LS04 — 7406 — 15 ACKNLGO
S23CNC1 18 — (A) — LS32 — (C)

IFBUSYO 17 — LS08 — LS08 — 7406 — 19 BUSY1

VCC — 21 NC
GND — 20
31 NC

NOTE: 1. t_1 MUST BE LESS THAN t_2 WHEN A = 0.
t_1 AND t_2 ARE INDILATED BY THE TIME CHART BELOW.

(B)
(C)
(D) — t_1 — t_2

NOTE: 2. 7414 MUST HAVE HYSTRESYS AT IT'S INPUT PORT. (2 PLACES)

3. INPUT SIGNAL ↴ AT PORT A OF Z0 MUST MAKE OUTPUT SIGNAL AT PORT C TO BE 0.
INPUT SIGNAL ↴ AT PORT B OF Z0 MUST MAKE OUTPUT SIGNAL AT PORT C TO BE 1.
INPUT SIGNAL 0 AT PORT D OF Z0 MUST MAKE OUTPUT SIGNAL AT PORT C TO BE 0 REGARDLESS OF SIGNAL LEVELS AT PORT A AND B.

REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	
2	A	1987.4.15 SC-527128	

DWG ABBR	
PKG LOCATION	
PKG NAME	G9WDBA 013
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
11 上	渡辺			62.1.16

μPB6101C-072 INTERNAL EQUIVALENT CIRCUIT

E 136-100721-015-A

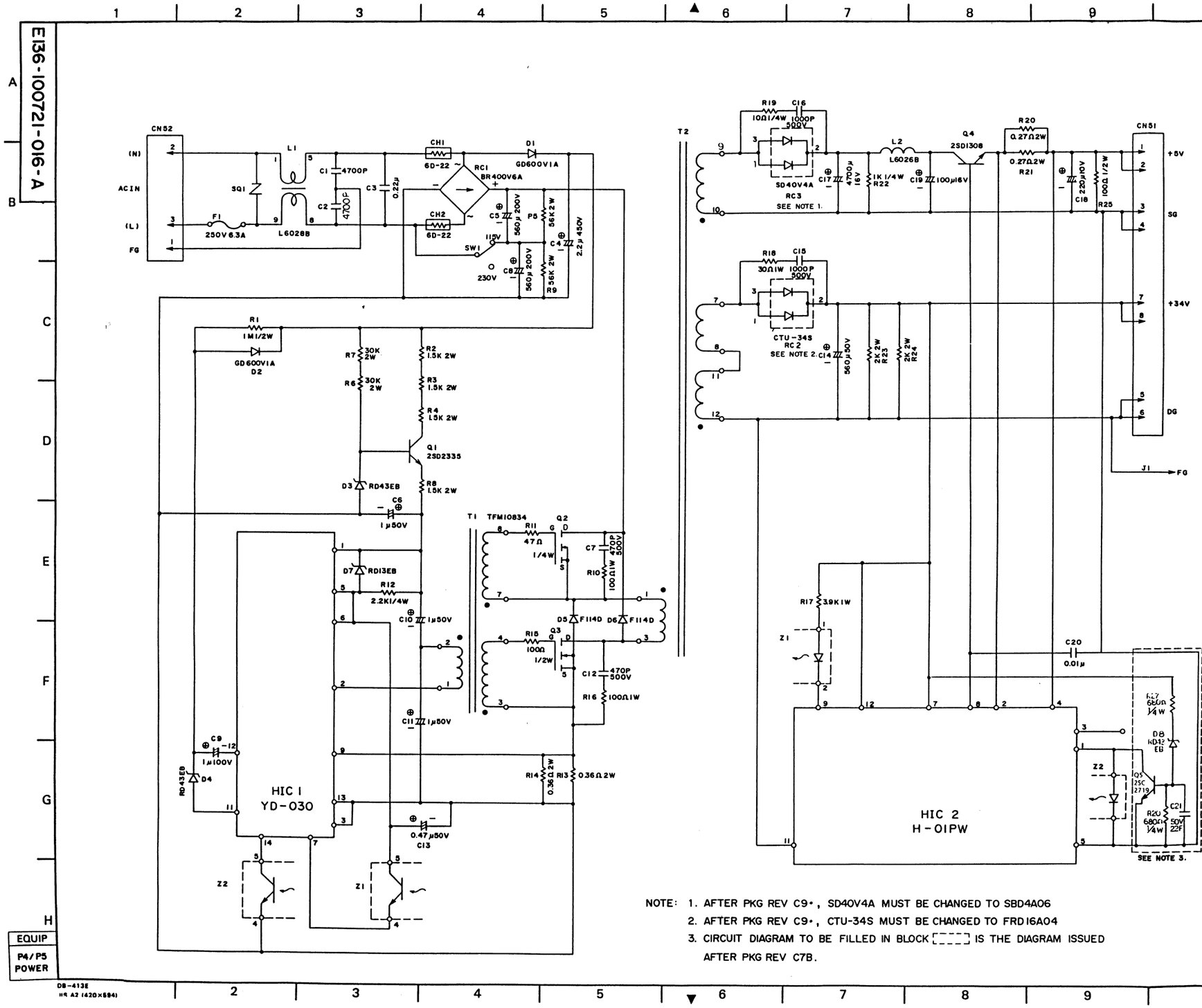
NEC SHT 1/1

EQUIP

DB-413E
JIS A2 (420×594)

E136-100721-016-A

REV	COMP	DESCRIPTION (SC)	APP
1	A	1986.12.22	
2	A	1987.4.15 SC-52717	



NOTE: 1. AFTER PKG REV C9•, SD40V4A MUST BE CHANGED TO SBD4A06
2. AFTER PKG REV C9•, CTU-34S MUST BE CHANGED TO FRD16A04
3. CIRCUIT DIAGRAM TO BE FILLED IN BLOCK [ ] IS THE DIAGRAM ISSUED AFTER PKG REV C7B.

PKG REV C7B

DWG ABBR	
PKG LOCATION	
PKG NAME	G9WDCA 001
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
小上	渡辺			発行 62.1.16 SC-0A

POWER SUPPLY

E136-100721-016-A

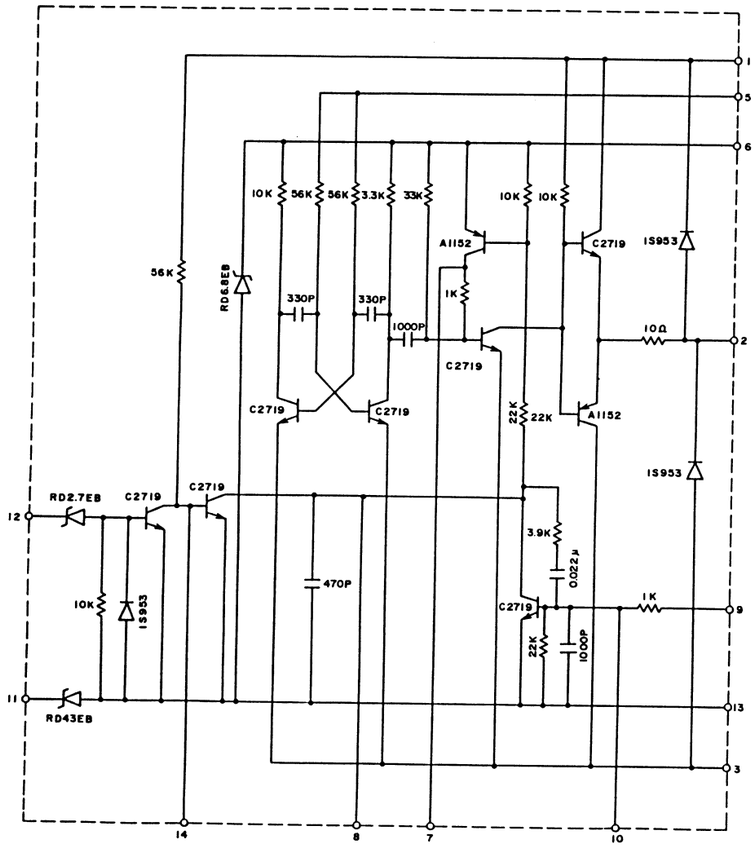
NEC SHT 1/1

EQUIP P4/P5 POWER

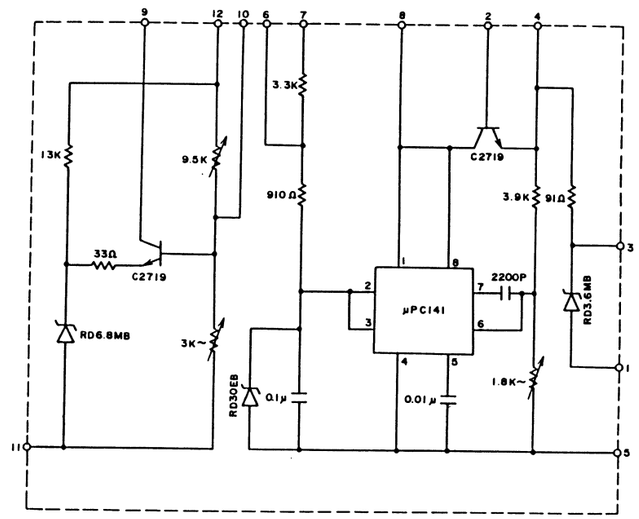
DB-413E
H9 A2 (420×594)

E136-100721-017-A

REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	—
2	A	1987.4.15 SC-5279128	



HIC 1 YD-030



HIC 2 H-01PW

PKG REV C7B

DWG ABBR	
PKG LOCATION	
PKG NAME	G9WDCA 002

NEXT SPEC				
DRAFT	ENG	CHK	APP	ISSUE
川上	渡辺			発行 62.1.18 SE-0A

HIC

INTERNAL CIRCUIT

E136-100721-017-A

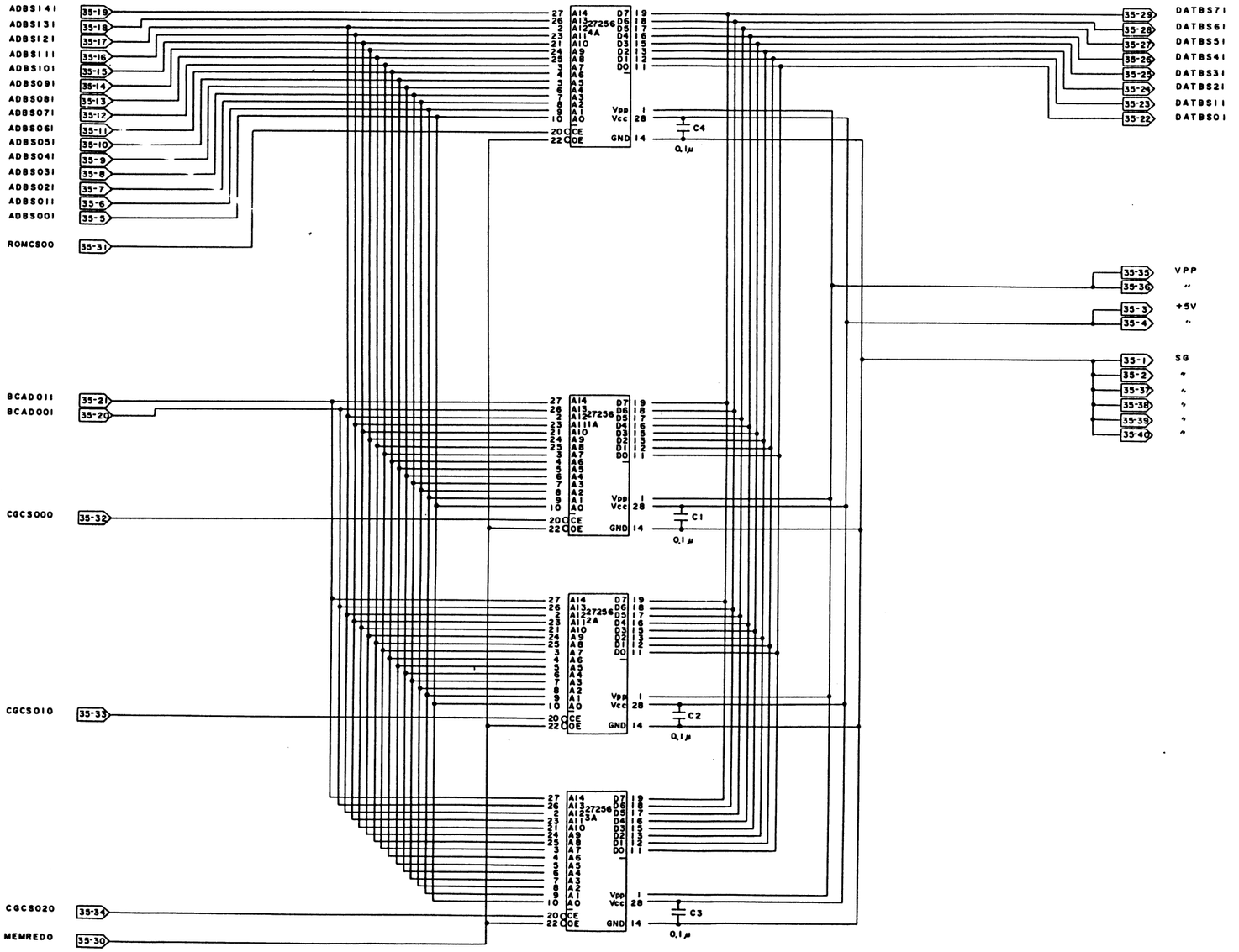
NEC SHT 1/1

EQUIP: P4/P5 POWER

DB-413E
JIS A2 (420×594)

E136-100721-018-A

REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	
2	A	1987.4.15 SC-52712X	



DWG ABBR	
PKG LOCATION	
PKG NAME	G9WDD[ ]001
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
川上	渡辺			発行 62.1.16

MASTER FW ROM
& CG ROM

E136-100721-018-A

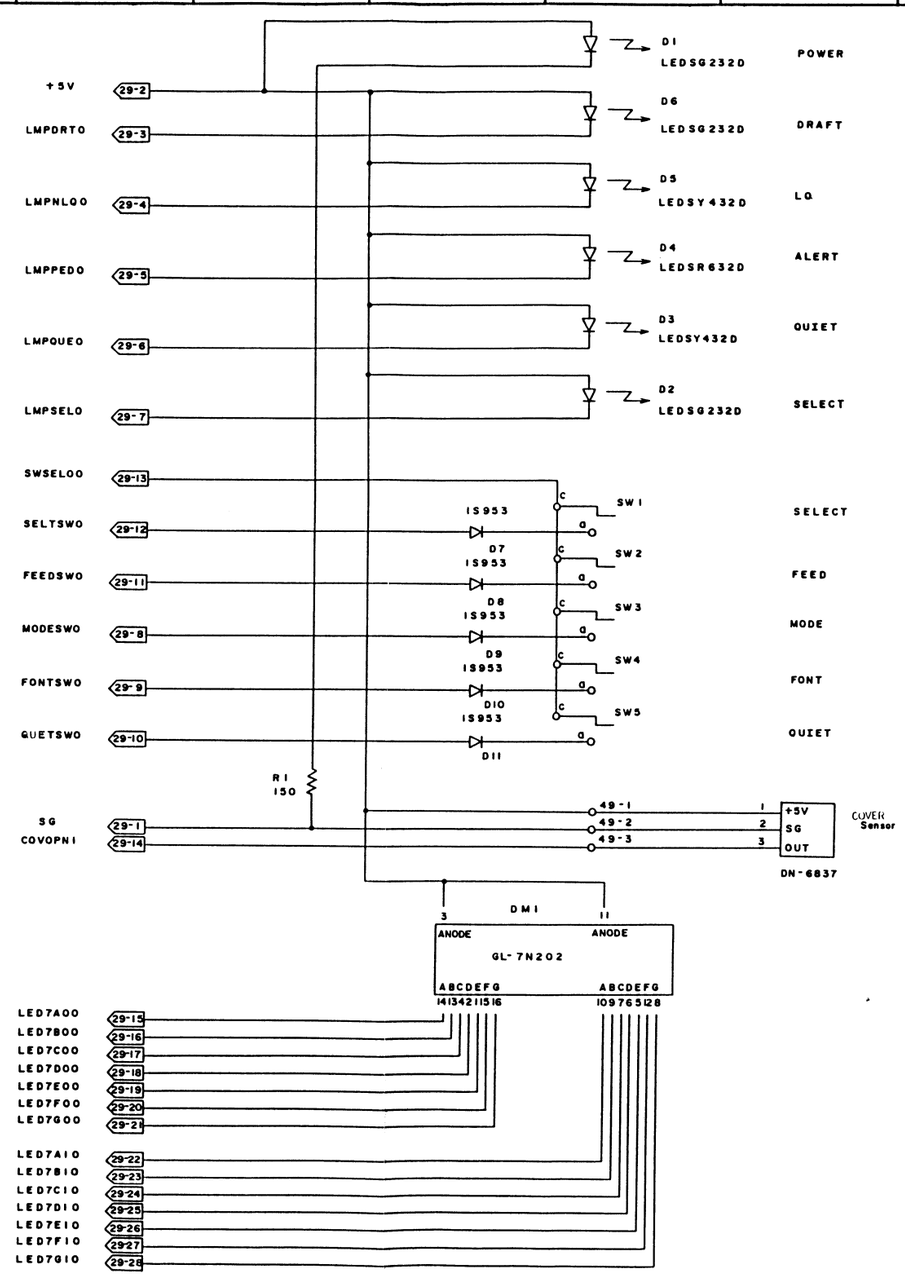
NEC SHT 1/1

EQUIP

DB-413E

E136-100721-019-A

REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	
2	A	1987.4.15 SC-527128	



PKG REV 'D4'

DWG ABBR	
PKG LOCATION	
PKG NAME	G9WDEA 001
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
川上	渡辺			82.1.18

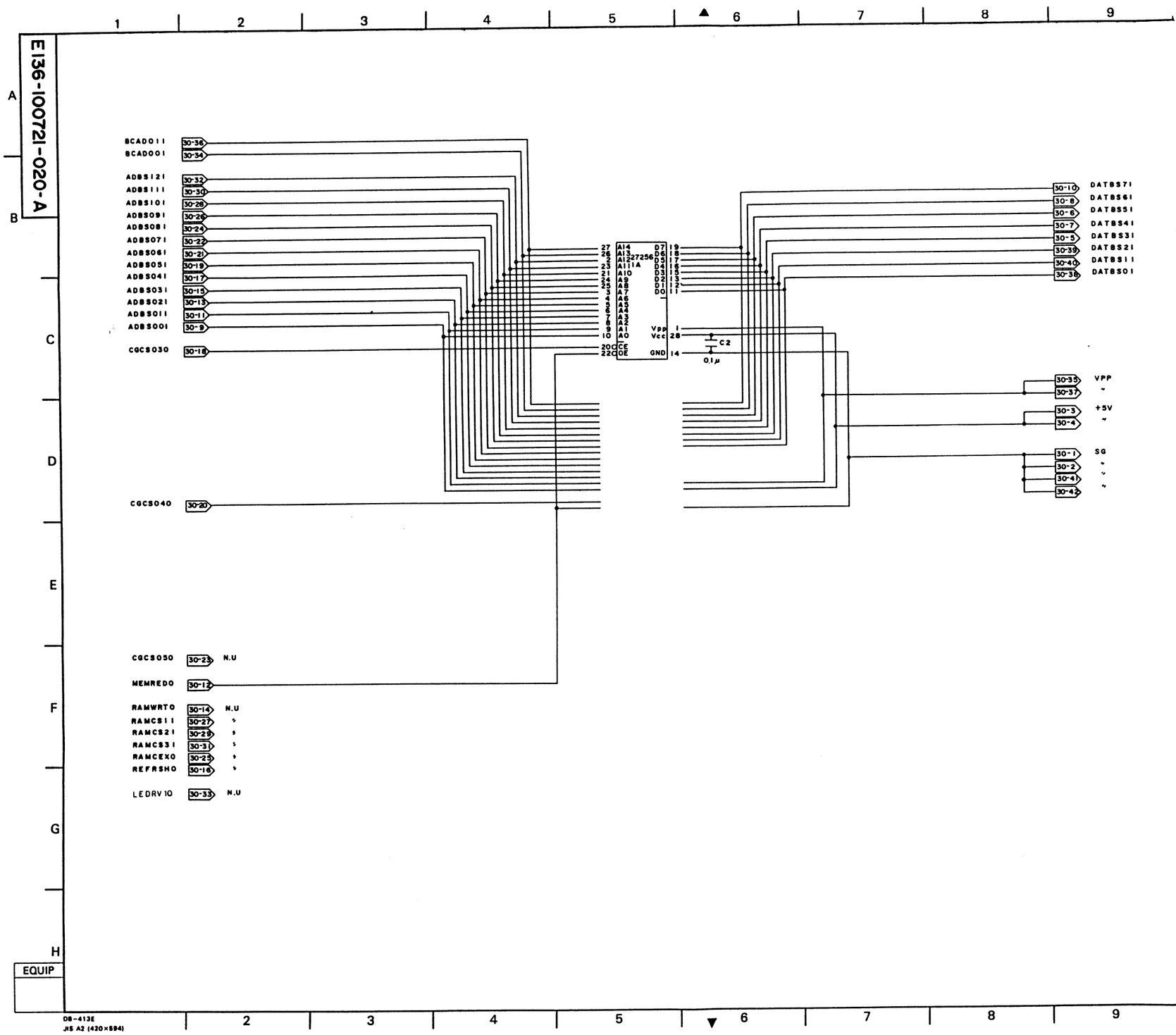
OPERATION

E 136-100721-019-A

NEC SHT 1/1

EQUIP

DB-413E
JIS A2 (420×594)



REV	COMP	DESCRIPTION (SC)	APP
1	A	1986.12.22	
2	A	1987.4.15 SC-5271	

PKG REV C4

DWG ABBR	
PKG LOCATION	
PKG NAME	G9WDFA 001
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
川上	渡辺			発行 82.1.18 E=0A

CG ROM

E136-100721-020-A

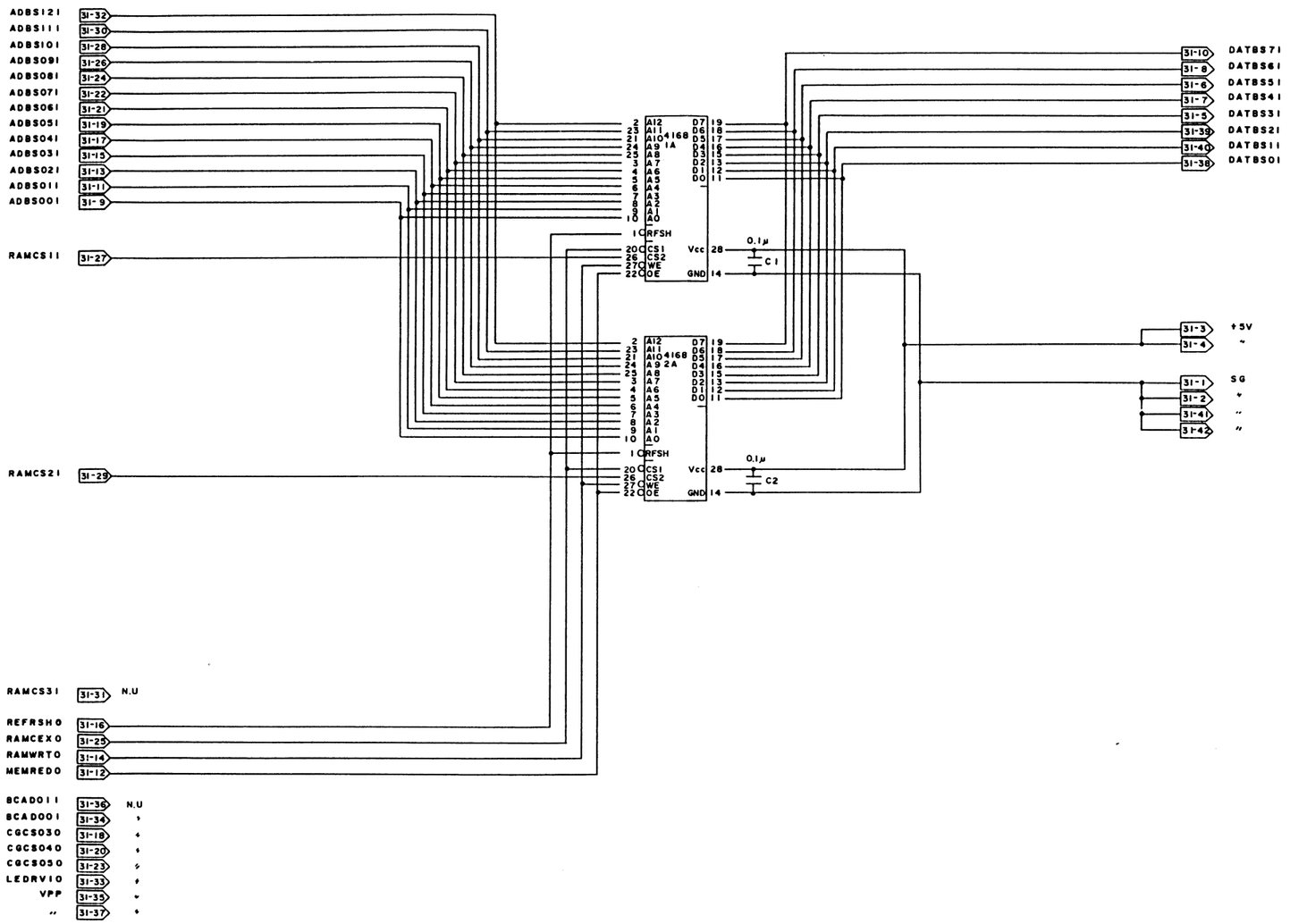
NEC SHT 1/1

EQUIP

DB-413E
JIS A2 (420×594)

E136-100721-021-A

REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	
2	A	1987.4.1 SC-52712	



PKG REV "B4."

DWG ABBR	
PKG LOCATION	
PKG NAME	G9WDGA 001
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
山上	渡辺(清)			82.1.16

OPTION RAM

E 136-100721-021-A

NEC SHT 1/1

EQUIP

DB-413E
JIS A2 (420×594)

E136-100721-022-A

REV	COMP	DESCRIPTION (SC)	APP
1	A	1986.12.26	
2	A	1987.4. SC-527128-0A	

PKG REV D5

DWG ABBR	
PKG LOCATION	
PKG NAME	G9WDHA 001
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
山上	渡辺			82.1.18 SC-0A

RS-232C OPTION

E136-100721-022-A

NEC SHT 1/1

EQUIP

DB-413E
JIS A2 (420×594)

8-35

E136-100721-023-A

REV	COMP	DESCRIPTION (SC)	APP
1	A	1986.12.22	
2	A	1987.4. SC-527128	

IHC-4-222KA
CM3 2200P×4
2543

(RD) RECEIVED DATA 38-3
(CS) CLEAR TO SEND 38-5
(DR) DATA SET READY 38-6
(CD) RECIVE LINE SIGNAL DETECTOR 38-8
(1/2) NF1
1489L 5B
INFRXD (1-F1)
LS08 3C
INFCTSO (1-F1)
INFDSRO (1-F1)
(X-F5) SELHLD
INFCDO (1-G1)

IHC-4-331KA
CM2 330P×4
4532
(1-E3) X11E
(1-F9) INFDTRO
(1-F9) INFRSTO
(1-F9) INFTXD
(1-G6) SDBREKO
(1-G6) INFRVCO
(X-F5) SELRVC
1488L 4B
LS86 3B
(1/2) NF1
38-20 DATA TERMINAL READY (ER)
38-4 REQUEST TO SEND (RS)
38-2 TRANSMITED DATA (SD)
J1
38-19 SECONDARY REQUEST TO SEND (SCA)
38-11 SCAEP

1488L (4B)
+12V 14 pin
-12V 1 pin
GND 7 pin

SG BC1 N.U
38-7 SIGNAL GROUND (SG)
38-1 FRAME GROUND (FG)
+12V J1 38-14 +12V
-12V J2 38-18 -12V

38-9, 38-10, 38-12, 38-13, 38-15, 38-16, 38-17, 38-21, 38-22, 38-23, 38-24, 38-25 N.U

DNG-1510L
+5V 15K×8 RM4
23456789

μPA54H
DM2, DM1
SW1, SW2
(2-G6) SWSEL50
(2-G6) SWSEL60
SWDAT00 (1-D1)
SWDAT10 (~)
SWDAT20 (~)
SWDAT30 (1-C1)
SWDAT40 (~)
SWDAT50 (~)
SELHLD (X-C3)
SELRVC (X-B6, 1-F1)
SG

(1-E3) X11H
34-2 RSOCENI
RSOCENI (1-C1)

34-3, 34-16, 34-20, 34-33 +5V
34-1, 34-17, 34-18, 34-34 SG
C1, C6 10μ/16V
C2, C11, C12 C13 0.1μ
+5V
SG

2SC2719
T1
IS954 D2
IS954 D3
R2 18K
R3 220
C9 0.1μ
C10 0.1μ
C14 100μ/35V
C15 330μ/10V
C16 1200P
C17 100μ/35V
C18 1200P
Q1
Q2
D1 RD15EB
+12V
-12V
SG

PKG REV 'D5'

DWG ABBR	
PKG LOCATION	
PKG NAME	G9WDHA 001
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
11 上	渡辺(靖)			終行 62.1.16 SC=0A

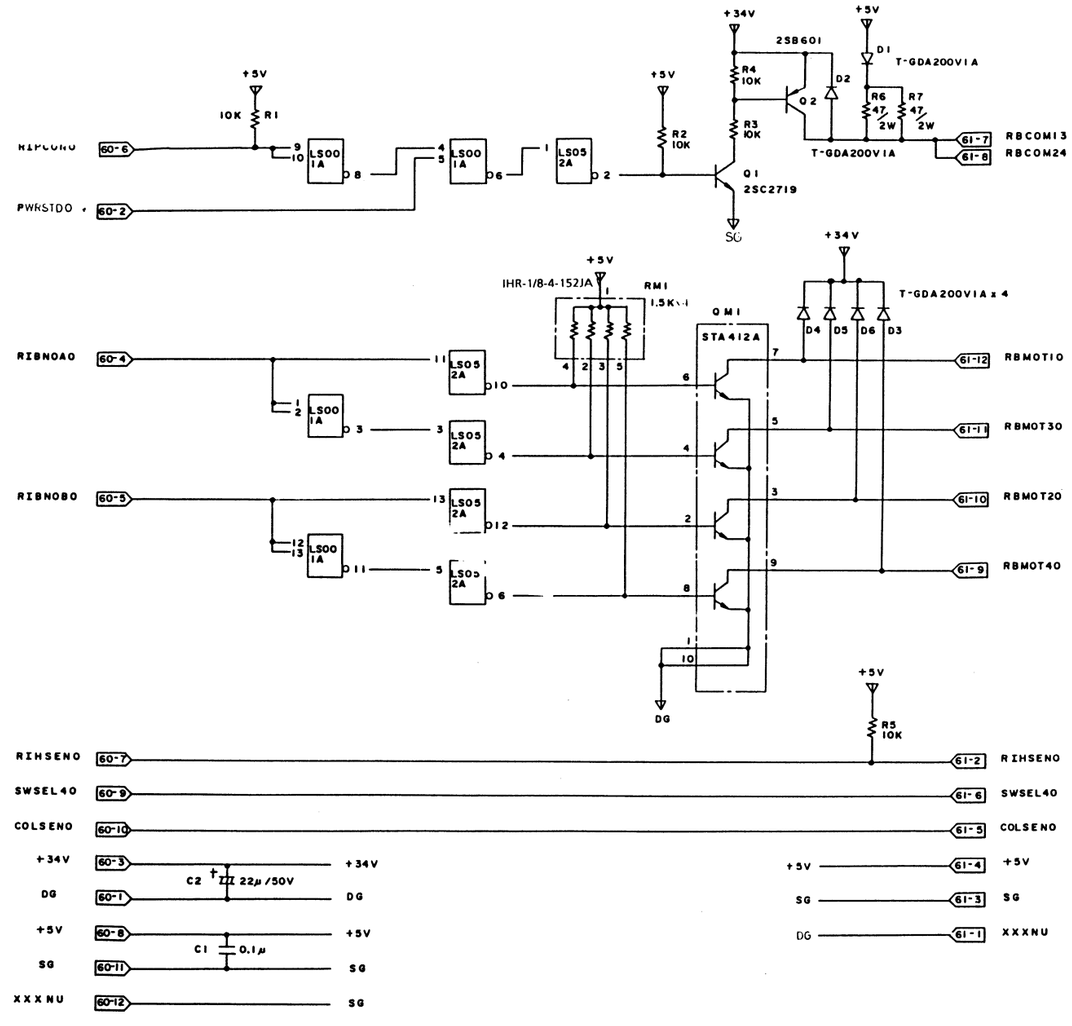
RS-232C OPTION

E136-100721-023-A

NEC SHT 1/1

EQUIP

DB-413E
JIS A2 (420×594)



REV	COMP	DESCRIPTION (SC)	APP
1	A	1986.12.22	
2	A	1987.4.15 SC-52712	

PKG REV B4

DWG ABBR	
PKG LOCATION	
PKG NAME	G9WDJA 001
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
1/1	渡辺			62.1.16

COLOR OPTION

E136-100721-024-A

EQUIP

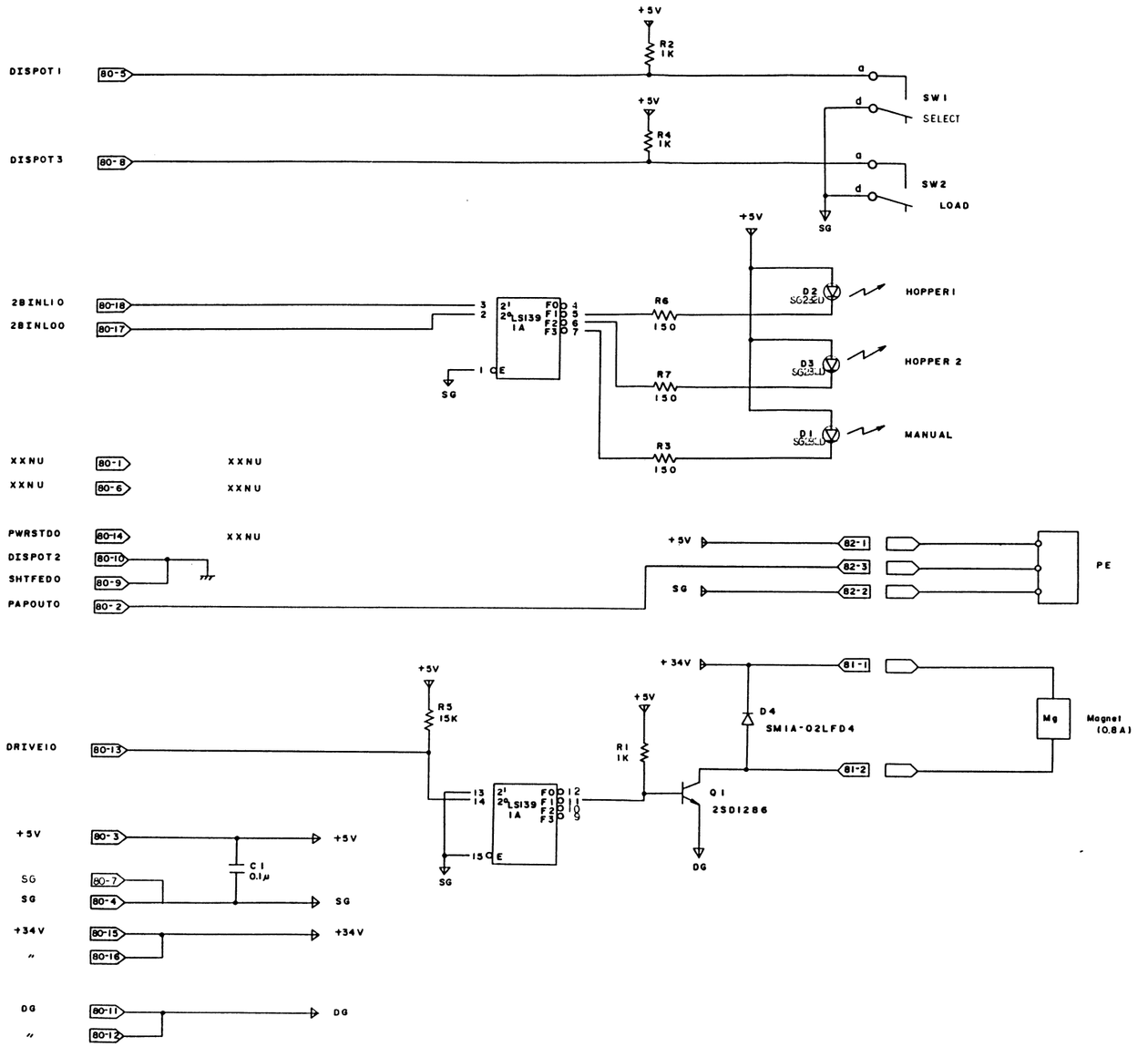
E136-100721-024-A

NEC SHT 1/1

DB-413E
JIS A2 (420×594)

E136-100721-025-A

REV	COMP	DESCRIPTION (SC)	APP
1	A	1986.12.22	—
2	A	1987.4.1 SC-5291283	



PKG REV B3

DWG ABBR	
PKG LOCATION	
PKG NAME	G9WVDA 001
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
11 上	渡辺			62.1.10

DUAL
BIN SHEET FEEDER

E 136-100721-025-A

NEC SHT 1/1

EQUIP

DB-413E
JIS A2 (420×594)

PCB Illustrated Parts Breakdown

E136-100722-001-A

NO	DESIGNATION	PART NAME	A	PART NUMBER	U	QTY
1		G9WDB PWB	P	136-452907-F	P	1
3	2A,2F	74LS00 IC	P	808-907000-001-A	P	2
4	4F	74LS02 IC	P	808-907002-001-A	P	1
5	2C,1D,VE,7F	74LS04 IC	P	808-907004-001-A	P	4
6	1A,1C,8F	74LS05 IC	P	808-907005-001-A	P	3
8	5F,7A	74LS08 IC	P	808-907008-001-A	P	2
9	7B,8B,7F	74LS32 IC	P	808-907032-001-A	P	3
11	8A	7474 IC	P	808-905074-001-A	P	1
12	2B,0A	74LS123IC	P	808-907123-001-A	P	2
13	6B,5F,XH,ZH	74LS138IC	P	808-907138-001-A	P	4
14	3C,YH,YG	74LS139IC	P	808-907139-001-A	P	3
16	1E	74LS279IC	P	808-907279-001-A	P	1
17	4C,7B,UB,WH	74LS373IC	P	808-907373-001-A	P	4
18	3H,VB,WB	74LS374IC	P	808-907374-001-A	P	3
19	UA,VC	7406 IC	P	808-905006-001-A	P	2
20	7A	7414 IC	P	808-905014-001-A	P	1
21	6A	7445 IC	P	808-905045-001-A	P	1
22	9F	74S138 IC	P	808-906138-001-A	P	1
23	2G	74S139IC	P	808-906139-001-A	P	1
24	4E,6E	8253-5	P	808-919322-002-A	P	2
25	5E	8255A-5	P	808-919323-001-A	P	1
26	8E	74LS157IC	P	808-907157-001-A	P	1
27	1H	μPB6101C-070	P	802-120276-002-A	P	1
28	5B	μPB6101C-072	P	802-120278-002-A	P	1
29	YF	74S00 IC	P	808-906000-001-A	P	1
30	4H,6H,7H,9H	μPD4168C-20	P	802-140115-002-A	P	6
	5H,UH					
32	4B,VF	μPD7810G 36	P	808-919404-001-A	P	2
33	0E,0F,1F,2F,3F,3G	74LS09 IC	P	808-907009-001-A	P	6
34	6F,7E	74S04 IC	P	808-906004-001-A	P	2
35	DM1~DM4	μPA54HA	P	808-910000-544-A	P	4
37	D2,D3,D5,D6	1S954-TB	P	802-210018-001-0	P	11
	D12,D13,D15,D16					
	D34,D35,D201					
40	RM1,RM2,RM7	RESISTOR MODULE HR-1/8-8-102 JA	P	808-930349-010-A	P	3
41	RM3~RM6,RM8,RM9	DNG-1510L	P	808-930391-011-A	P	6
42	R106~R107, R109~R116	T-REC25VJ102	P	808-930200-070-A	P	28
	R118~R125, R58,R59,R85,R86					
44	R30,R416~R148	T-REC25VJ100	P	808-930200-010-A	P	4
45	R24~R28	T-REC25VJ151	P	808-930200-044-A	P	5
46	R8~R17,R19~R21	T-REC25VJ221	P	808-930200-048-A	P	14
	R23					
48	R31	T-REC25VJ272	P	808-930200-080-A	P	1
49	R2	T-REC25VJ153	P	808-930200-114-A	P	1
50	R4,R7	T-REC25VJ104	P	808-930200-134-A	P	2
51	R1,R29	T-REC25VJ105	P	808-930200-178-A	P	2
		CONNECTOR PLATE (1) Assy				
53			A	136-779039-A	P	1
54		BSP-34	P	803-010048-002-0	P	2
60	2E	27128(1) REWORK	A	136-201076-A	S	1

NO	DESIGNATION	PART NAME	A	PART NUMBER	U	QTY
61	C2,C10,C11,C13,C14, C18,C20,C21, C23~C29,C31	T-BC45BC104Z12V	P	808-935900-101-A	P	38
	C35~C38,C40,C41					
	C43~C45,C47~C50					
	C52~C55,C65,C86 C57~C59					
66	C15,C22,C34,C39	TPD1C100M-X	P	808-935400-101-A	P	8
	C46,C51,C66,C85					
68	C1,C8,C12,C16,C17	TCK45B102K50V	P	808-935504-006-A	P	9
	C30,C42,C83,C84					
70	C3~C7,C32,C33	T-CK45B471K50V	P	808-935504-002-A	P	7
71	C9,C19	T-MC02C1H104-M	P	808-935502-051-A	P	2
72	CM1,CM2	CSC300K	P	808-970112-051-A	P	2
73	C60~C64,C56,C67	T-MC02F1H104Z	P	808-935500-002-A	P	7
74	CRM1	CR2001	P	808-934903-001-A	P	1
76	XT1,XT2	CSA12.00MT	P	808-970112-008-A	P	2
79	SW1~SW3	SWITCH, DIP, 8P	P	808-950363-008-A	P	3
80	SW4	SWITCH, DIP, 8P	P	808-950358-008-A	P	1
85	DL1	ADL12-2S	P	808-940103-001-A	P	1
88	BZ1	HMB-06	P	808-960407-002-A	P	1
92	NF1,NF2	D-05N NOISE FILTER	P	808-970212-001-A	P	2
94	BC1~BC4	BL02RN1-R62T2	P	808-940802-001-A	P	4
104	2E	28P IC SOCKET	P	808-955157-128-A	P	1
105		SPACER	P	136-772590-A	P	1
108	CN13	7620-5042SCK	P	808-955249-003-A	P	1
109	CN1,CN2	18FR-BT	P	808-955216-018-A	P	2
110	CN3	HR-02S NATURAL	P	808-955247-521-A	P	1
111	CN4	HR-07S BLACK	P	808-955247-573-A	P	1
112	CN5	VR-08	P	808-955247-808-A	P	1
113	CN6	HR-12S RED	P	808-955247-592-A	P	1
114	CN7	HR-03S BLUE	P	808-955247-534-A	P	1
116	CN9	PHD-12B	P	808-955244-128-A	P	1
117	CN10,CN11	FONT-42S	P	808-955248-002-A	P	2
119	CN14	FHA-34H0	P	808-955223-634-A	P	1
120	CN15	FHA-40HL	P	808-955223-940-A	P	1

NO	DESIGNATION	PART NAME	A	PART NUMBER	U	QTY
121	Q15~Q19	2SC2719-T	P	802-250030-002-0	P	7
	Q54,Q63					
123	Q20	2SA1152-T	P	802-250030-001-0	P	1
126	Q3~Q10	2SD1308	P	808-922015-001-A	P	32
	Q30~Q53					
129	Q11~Q14	2SB601	P	808-920106-011-A	P	12
	Q55~Q62					
135	D28,D29,D32,D33	T-GDA200V1A	P	802-210019-101-A	P	44
	D70~D101, D103~D112					
137	D7~D10	T-FRDA200V06A	P	802-210021-101-A	P	8
	D17~D20					
139	D113~D120	RD47FB	P	802-230014-201-0	P	8
140	D36	RD2.7EB1	P	808-923504-047-A	P	1
141	D1,D4,D11,D14	RD47EB	P	802-230013-070-A	P	4
142	C82,C88	T-CEK50V22μF	P	808-935300-101-A	P	2
142	C87	50VNSN-10000	P	802-410068-A	P	1
145	C89,C90	TPD1VR47K-X	P	808-935400-002-A	P	2
146	R90	T-REC25VJ470	P	808-930200-026-A	P	1
147	R89	T-REC25VJ560	P	808-930200-028-A	P	1
148	R67,R68	T-REC25VJ821	P	808-930200-062-A	P	4
	R71,R72					
150	R83,R81	T-REC25VJ223	P	808-930200-118-A	P	2
151	R57,R60	T-REC25VJ682	P	808-930200-090-A	P	2
152	R73	T-REC25VJ562	P	808-930200-088-A	P	1
153	R3,R163	T-REC25VJ332	P	808-930200-082-A	P	2
155	R87	T-REC25VJ182	P	808-930200-076-A	P	1
156	R143,R144	T-REC25VJ683	P	808-930200-130-A	P	2
158	R77,R80	T-REC25VJ123	P	808-930200-112-A	P	2
159	R81,R82	T-REC25VJ473	P	808-930200-126-A	P	2
167	R65,R66,R69,R70	T-REC25VJ222	P	808-930200-078-A	P	14
	R78,R79					
	R127,R129,R131					
	R133,R139~R142					
168	R74~R76	ERG2ANJ102U	P	808-930461-278-A	P	3
169	R61~R64, R149~R151	ERG2ANJ202U	P	808-930461-272-A	P	17
	R154,R155,R157~R162					
	R55,R56					
172	R128,R130,R132	ERG2ANJ242U	P	808-930461-279-A	P	8
	R134~R138					
176	R88	T-REC25VJ101	P	808-930200-040-A	P	1
179	CN20	HR-07S NATURAL	P	808-955247-571-A	P	1

REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	——

PKG REV H7

DWG ABBR	
PKG LOCATION	
PKG NAME	
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
上	渡辺			

G9WDBA PKG

E136-100722-001-A

NEC

SHT 1

EQUIP: P4/P5 MB

D6-413E
JIS A2 (420×594)

E136-100722-001-A

REV	COMP	DESCRIPTION (SC)	APP
1	A	1986.12.22	

PKG REV H7

DWG ABBR	
PKG LOCATION	
PKG NAME	
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
川上	渡辺			登行 62.1.16

G9WDBA PKG

E136-100722-001-A

NEC SHT 1/3

EQUIP: P4/P5 MB

DB-413E
JIS A2 (420×594)

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PROGRAM FIAMWARE
MOS IC USE

NEC MADE IN JAPAN

E136-100722-001-A

NO	DESIGNATION	PART NAME	A	PART NUMBER	U	QTY
1		G9WDB PWB	P	136-452907-F	P	1
3	2A,ZF	74LS00 IC	P	808-907000-001-A	P	2
4	4F	74LS02 IC	P	808-907002-001-A	P	1
5	2C,1D,VE,7F	74LS04 IC	P	808-907004-001-A	P	4
6	1A,1C,8F	74LS05 IC	P	808-907005-001-A	P	3
8	5F,7A	74LS08 IC	P	808-907008-001-A	P	2
9	7B,8B,TF	74LS32 IC	P	808-907032-001-A	P	3
11	8A	7474 IC	P	808-905074-001-A	P	1
12	2B,0A	74LS123 IC	P	808-907123-001-A	P	2
13	6B,SF,XH,ZH	74LS138 IC	P	808-907138-001-A	P	4
14	3C,YH,YG	74LS139 IC	P	808-907139-001-A	P	3
16	1E	74LS279 IC	P	808-907279-001-A	P	1
17	4C,TB,UB,WH	74LS373 IC	P	808-907373-001-A	P	4
18	3H,VB,WB	74LS374 IC	P	808-907374-001-A	P	3
19	UA,VC	7406 IC	P	808-905006-001-A	P	2
20	TA	7414 IC	P	808-905014-001-A	P	1
21	6A	7445 IC	P	808-905045-001-A	P	1
22	9F	74S138 IC	P	808-906138-001-A	P	1
23	ZG	74S139 IC	P	808-906139-001-A	P	1
24	4E,6E	8253-5	P	808-919322-002-A	P	2
25	5E	8255A-5	P	808-919323-001-A	P	1
26	8E	74LS157 IC	P	808-907157-001-A	P	1
27	1H	μPB6101C-070	P	802-120276-002-A	P	1
28	5B	μPB6101C-072	P	802-120278-002-A	P	1
29	YF	74S00 IC	P	808-906000-001-A	P	1
30	4H,6H,7H,9H	μPD4168C-20	P	802-140115-002-A	P	6
	5H,UH					
32	4B,VF	μPD7810G 36	P	808-919404-001-A	P	2
33	0E,0F,1F,2F,3F,3G	74LS09 IC	P	808-907009-001-A	P	6
34	6F,7E	74S04 IC	P	808-906004-001-A	P	2
35	DM1~DM4	μPA54H	P	808-910000-544-A	P	4
37	D2,D3,D5,D6	1S954-TB	P	802-210018-001-0	P	11
	D12,D13,D15,D16					
	D34,D35,D201					
40	RM1,RM2,RM7	RESISTOR MODULE (MR-1/8-8-102 JA	P	808-930349-010-A	P	3
41	RM3~RM6,RM8,RM9	DNG-1510L	P	808-930391-011-A	P	6
42	R100~R107, R109~R116	T-REC25VJ102	P	808-930200-070-A	P	28
	R118~R125, R58,R59,R85,R86					
44	R30,R416~R148	T-REC25VJ100	P	808-930200-010-A	P	4
45	R24~R28	T-REC25VJ151	P	808-930200-044-A	P	5
46	R8~R17,R19~R21	T-REC25VJ221	P	808-930200-048-A	P	14
	R23					
48	R31	T-REC25VJ272	P	808-930200-080-A	P	1
49	R2	T-REC25VJ153	P	808-930200-114-A	P	1
50	R4,R7	T-REC25VJ104	P	808-930200-134-A	P	2
51	R1,R29	T-REC25VJ105	P	808-930200-178-A	P	2
53		CONNECTOR PLATE (1) Assy	A	136-779039-A	P	1
54		BSP-34	P	803-010048-002-0	P	2
60	2E	27128(1) REWORK	A	136-201076-A	S	1

NO	DESIGNATION	PART NAME	A	PART NUMBER	U	QTY
61	C2,C10,C11,C13,C14, C18,C20,C21, C23~C29,C31	T-BC45BC104Z12V	P	808-935900-101-A	P	38
	C35~C38,C40,C41					
	C43~C45,C47~C50					
	C52~C55,C65,C86 C57~C59					
66	C15,C22,C34,C39	TPD1C100M-X	P	808-935400-101-A	P	8
	C46,C51,C66,C85					
68	C1,C8,C12,C16,C17	TCK45B102K50V	P	808-935504-006-A	P	9
	C30,C42,C83,C84					
70	C3~C7,C32,C33	T-CK45B471K50V	P	808-935504-002-A	P	7
71	C9,C19	T-MC02C1H104-M	P	808-935502-051-A	P	2
72	CM1,CM2	CSC300K	P	808-970112-051-A	P	2
73	C60~C64,C56,C67	T-MC02F1H104Z	P	808-935500-002-A	P	7
74	CRM1	CR2001	P	808-934903-001-A	P	1
76	XT1,XT2	CSA12.00MT	P	808-970112-008-A	P	2
79	SW1~SW3	SWITCH, DIP, 8P	P	808-950363-008-A	P	3
80	SW4	SWITCH, DIP, 8P	P	808-950358-018-A	P	1
85	DL1	ADL12-2S	P	808-940103-001-A	P	1
88	BZ1	HMB-06	P	808-960407-002-A	P	1
92	NF1,NF2	D-05N NOISE FILTER	P	808-970212-001-A	P	2
94	BC1~BC4	BL02RN1-R62T2	P	808-940802-001-A	P	4
96	R3	0.65.TCW WIRE	P	804-171001-065-M		1
104	2E	28P IC SOCKET	P	808-955157-128-A	P	1
105		SPACER	P	136-772590-A	P	1
108	CN13	7620-5042SC	P	808-955249-003-A	P	1
109	CN1,CN2	18FR-BT	P	808-955216-018-A	P	2
110	CN3	HR-02S NATURAL	P	808-955247-521-A	P	1
111	CN4	HR-07S BLACK	P	808-955247-573-A	P	1
112	CN5	VR-08	P	808-955247-808-A	P	1
113	CN6	HR-12S RED	P	808-955247-592-A	P	1
114	CN7	HR-03S BLUE	P	808-955247-534-A	P	1
116	CN9	MIF3FR-28PA (2.54) DSA(22)	P	808-955286-228-A	P	1
117	CN10,CN11	FONT-42S	P	808-955248-002-A	P	2
119	CN14	FHA-34HO	P	808-955223-634-A	P	1
120	CN15	FHA-40HL	P	808-955223-940-A	P	1

NO	DESIGNATION	PART NAME	A	PART NUMBER	U	QTY
121	Q15~Q19	2SC2719-T	P	802-250030-002-0	P	7
	Q54,Q63					
123	Q20	2SA1152-T	P	802-250030-001-0	P	1
126	Q3~Q10	2SD1308	P	808-922015-001-A	P	32
	Q30~Q53					
129	Q11~Q14	2SB601	P	808-920106-011-A	P	12
	Q55~Q62					
135	D28,D29,D32,D33	T-GDA200V1A	P	802-210019-101-A	P	44
	D70~D101, D105~D112					
137	D7~D10	T-FRDA200V06A	P	802-210021-101-A	P	8
	D17~D20					
139	D113~D120	RD47FB	P	802-230014-201-0	P	8
140	D36	RD2.7EB1	P	808-923504-047-A	P	1
141	D1,D4,D11,D14	RD47EB	P	802-230013-070-A	P	4
142	C82,C88	T-CEK50V22μF	P	808-935300-101-A	P	2
142	C87	50VNSN-10000	P	802-410068-A	P	1
145	C89,C90	TPD1VR47K-X	P	808-935400-002-A	P	2
146	R90	T-REC25VJ470	P	808-930200-026-A	P	1
147	R89	T-REC25VJ560	P	808-930200-028-A	P	1
148	R67,R68	T-REC25VJ821	P	808-930200-062-A	P	4
	R71,R72					
150	R83,R81	T-REC25VJ223	P	808-930200-118-A	P	2
151	R57,R60	T-REC25VJ682	P	808-930200-090-A	P	2
152	R73	T-REC25VJ562	P	808-930200-088-A	P	1
153	R163	T-REC25VJ332	P	808-930200-082-A	P	1
155	R87	T-REC25VJ182	P	808-930200-076-A	P	1
156	R143,R144	T-REC25VJ683	P	808-930200-130-A	P	2
157	CE,RFSH	T-RF07Q681G	P	808-930300-056-A	P	2
158	R77,R80	T-REC25VJ123	P	808-930200-112-A	P	2
159	R81,R82	T-REC25VJ473	P	808-930200-126-A	P	2
167	R65,R66,R69,R70	T-REC25VJ222	P	808-930200-078-A	P	14
	R78,R79					
	R127,R129,R131					
	R133,R139~R142					
168	R74~R76	ERG2ANJ102U	P	808-930461-278-A	P	3
169	R61~R64, R149~R151	ERG2ANJ202U	P	808-930461-272-A	P	17
	R154,R155,R157~R162					
	R55,R56					
172	R128,R130,R132	ERG2ANJ242U	P	808-930461-279-A	P	8
	R134~R138					
176	R88	T-REC25VJ101	P	808-930200-040-A	P	1
179	CN20	HR-07S NATURAL	P	808-955247-571-A	P	1

REV	COMP	DESCRIPTION (SC)	APP
1	A	1986.12.22	

PKG REV [illegible]

DWG ABBR	
PKG LOCATION	
PKG NAME	
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
上	渡辺			

G9WDBA PKG

E136-100722-001-A

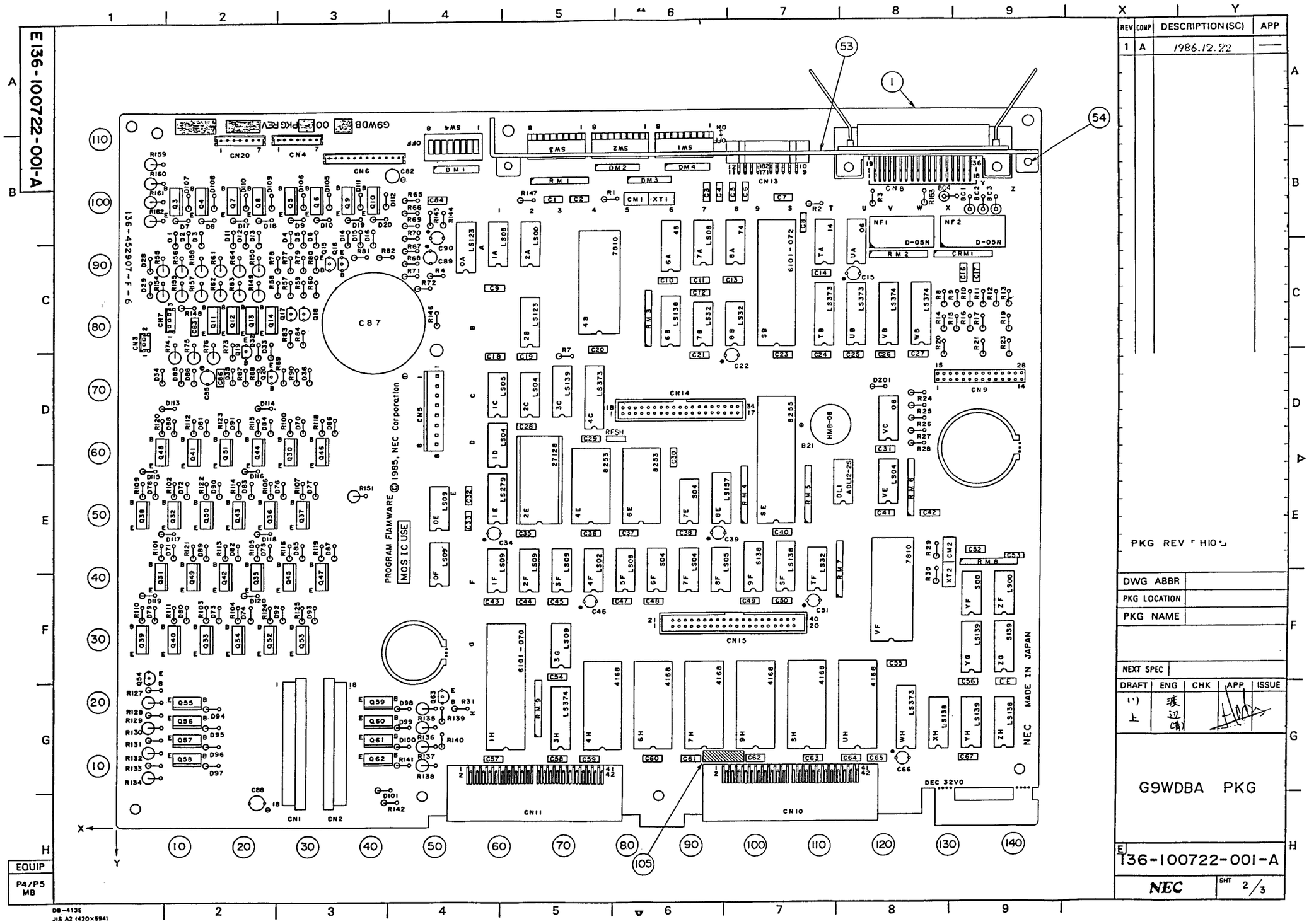
NEC

SHT

EQUIP

P4/P5 MB

DR-413E
JIS A2 (420×594)



REV	COMP	DESCRIPTION (SC)	APP
1	A	1986.12.22	

PKG REV [illegible]

DWG ABBR	
PKG LOCATION	
PKG NAME	
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
上				

G9WDBA PKG

E 136-100722-001-A

NEC SHT 2/3

E136-100722-001-A

NO	DESIGNATION	PART NAME	A	PART NUMBER	U	QTY
1		G9WDB PWB	P	136-452907-F	P	1
3	2A,2F	74LS00 IC	P	808-907000-001-A	P	2
4	4F	74LS02 IC	P	808-907002-001-A	P	1
5	2C,1D,1E,7F	74LS04 IC	P	808-907004-001-A	P	4
6	1A,1C,8F	74LS05 IC	P	808-907005-001-A	P	3
8	5F,7A	74LS08 IC	P	808-907008-001-A	P	2
9	7B,8B,7F	74LS32 IC	P	808-907032-001-A	P	3
11	8A	7474 IC	P	808-905074-001-A	P	1
12	2B,0A	74LS123IC	P	808-907123-001-A	P	2
13	6B,5F,XH,ZH	74LS138IC	P	808-907138-001-A	P	4
14	3C,YH,YG	74LS139IC	P	808-907139-001-A	P	3
16	1E	74LS279IC	P	808-907279-001-A	P	1
17	4C,7B,UB,WH	74LS373IC	P	808-907373-001-A	P	4
18	3H,VB,WB	74LS374IC	P	808-907374-001-A	P	3
19	UA,VC	7406 IC	P	808-905006-001-A	P	2
20	7A	7414 IC	P	808-905014-001-A	P	1
21	6A	7445 IC	P	808-905045-001-A	P	1
22	9F	74S138IC	P	808-906138-001-A	P	1
23	2G	74S139IC	P	808-906139-001-A	P	1
24	4E,6E	8253-5	P	808-919322-002-A	P	2
25	5E	8255A-5	P	808-919323-001-A	P	1
26	8E	74LS157IC	P	808-907157-001-A	P	1
27	1H	μPB6101C-070	P	802-120276-002-A	P	1
28	5B	μPB6101C-072	P	802-120278-002-A	P	1
29	YF	74S00 IC	P	808-906000-001-A	P	1
30	4H,6H,7H,9H 5H,UH	μPD4168C-20	P	802-140115-002-A	P	6
32	4B,VF	μPD7810G 36	P	808-919404-001-A	P	2
33	0E,0F,1F,2F,3F,3G	74LS09 IC	P	808-907009-001-A	P	6
34	6F,7E	74S04 IC	P	808-906004-001-A	P	2
35	DM1~DM4	μPA54H	P	808-910000-544-A	P	4
37	D35,D201	1S954-TB	P	802-210018-001-0	P	2
40	RM1,RM2,RM7	RESISTOR MODULE THR-1/8-8-102JA	P	808-930349-010-A	P	3
41	RM3~RM6,RM8,RM9	DNG-1510L	P	808-930391-011-A	P	6
42	R100~R107, R109~R116	T-REC25VJ102	P	808-930200-070-A	P	28
	R118~R125, R58,R59,R85,R86					
44	R30,R416~R418	T-REC25VJ100	P	808-930200-010-A	P	4
45	R24~R28	T-REC25VJ151	P	808-930200-044-A	P	5
46	R8~R17,R19~R21 R23	T-REC25VJ221	P	808-930200-048-A	P	14
48	R31	T-REC25VJ272	P	808-930200-080-A	P	1
49	R2	T-REC25VJ153	P	808-930200-114-A	P	1
50	R4,R7	T-REC25VJ104	P	808-930200-134-A	P	2
51	R1,R29	T-REC25VJ105	P	808-930200-178-A	P	2
53		CONNECTOR PLATE (1) Assy	A	136-779039-A	P	1
54		BSP-34	P	803-010048-002-0	P	2
60	2E	27128(1) REWORK	A	136-201076-A	S	1

NO	DESIGNATION	PART NAME	A	PART NUMBER	U	QTY
61	C2,C10,C11,C13,C14 C18,C20,C21, C23~C29,C31	T-BC45BC104Z12V	P	808-935900-101-A	P	38
	C35~C38,C40,C41					
	C43~C45,C47~C50					
	C52~C55,C65,C86 C57~C59					
66	C15,C22,C34,C39 C46,C51,C66,C85	TPDIC100M-X	P	808-935400-101-A	P	8
68	C1,C8,C12,C16,C17 C30,C42,C83,C84	TCK45B102K50V	P	808-935504-006-A	P	9
70	C3~C7,C32,C33	T-CK45B471K50V	P	808-935504-002-A	P	7
71	C9,C19	T-MC02C1H104-M	P	808-935502-051-A	P	2
72	CM1,CM2	CSC300K	P	808-970112-051-A	P	2
73	C60~C64,C56,C67	T-MC02F1H104Z	P	808-935500-002-A	P	7
74	CRM1	CR2001	P	808-934903-001-A	P	1
76	XT1,XT2	CSA12.00MT	P	808-970112-008-A	P	2
79	SW1~SW3	SWITCH,DIP,8P	P	808-950363-008-A	P	3
80	SW4	SWITCH,DIP,8P	P	808-950358-018-A	P	1
85	DL1	ADL12-2S	P	808-940103-001-A	P	1
88	BZ1	HMB-06	P	808-960407-002-A	P	1
92	NF1,NF2	D-05N NOISE FILTER	P	808-970212-001-A	P	2
94	BC1~BC4	BL02RN1-R62T2	P	808-940802-001-A	P	4
96	R3	0.65.TCW WIRE	P	804-171001-065-A	M	1
104	2E	28P IC SOCKET	P	808-955157-128-A	P	1
105		SPACER	P	136-772590-A	P	1
108	CN13	7620-5042SC	P	808-955249-003-A	P	1
109	CN1,CN2	18FR-BT	P	808-955216-018-A	P	2
110	CN3	HR-02S NATURAL	P	808-955247-521-A	P	1
111	CN4	HR-07S BLACK	P	808-955247-573-A	P	1
112	CN5	VR-08	P	808-955247-808-A	P	1
113	CN6	HR-12S RED	P	808-955247-592-A	P	1
114	CN7	HR-03S BLUE	P	808-955247-534-A	P	1
116	CN9	HIF3FB-28PA 2.54DSA(27)	P	808-955286-228-A	P	1
117	CN10,CN11	FONT-42S	P	808-955248-002-A	P	2
119	CN14	FHA-34HO	P	808-955223-634-A	P	1
120	CN15	FHA-40HL	P	808-955223-940-A	P	1

NO	DESIGNATION	PART NAME	A	PART NUMBER	U	QTY
121	Q15~Q19 Q54,Q63	2SC2719-T	P	802-250030-002-0	P	7
123	Q20	2SA1152-T	P	802-250030-001-0	P	1
126	Q3~Q10 Q30~Q53	2SD1308	P	808-922015-001-A	P	32
129	Q11~Q14 Q55~Q62	2SB601	P	808-920106-011-A	P	12
135	D2,D3,D5,D6,D12 D13 D15,D16,D34 D28,D29,D32,D33 D70~D101, D105~D112	T-GDA200V1A	P	802 210019-101-A	P	53
137	D7~D10 D17~D20	T-FRD A 200V0.6A	P	802-210021-101-A	P	8
139	D113~D120	RD47FB	P	802-230014-201-0	P	8
140	D36	RD2.7EB1-TB	P	802-230020-107-0	P	1
141	D1,D4,D11,D14	RD47EB-TB	P	802-230020 040-0	P	4
142	C82,C88	T-CEK50V22μF	P	808-935300-101-A	P	2
142	C87	50VNSN-10000	P	802-410068-A	P	1
145	C89,C90	TPD1VR47K-X	P	808-935400-002-A	P	2
146	R90	T-REC25VJ470	P	808-930200-026-A	P	1
147	R89	T-REC25VJ560	P	808-930200-028-A	P	1
148	R67,R68 R71,R72	T-REC25VJ821	P	808-930200-062-A	P	4
150	R83,R81	T-REC25VJ223	P	808-930200-118-A	P	2
151	R57,R60	T-REC25VJ682	P	808-930200-090-A	P	2
152	R73	T-REC25VJ562	P	808-930200-088-A	P	1
153	R163	T-REC25VJ332	P	808-930200-082-A	P	1
155	R87	T-REC25VJ182	P	808-930200-076-A	P	1
156	R143,R144	T-REC25VJ683	P	808-930200-130-A	P	2
157	CE,RFSH	T-RF070681G	P	808-930300-056-A	P	2
158	R77,R80	T-REC25VJ123	P	808-930200-112-A	P	2
159	R81,R82	T-REC25VJ473	P	808-930200-126-A	P	2
167	R65,R66,R69,R70 R78,R79 R127,R129,R131 R133,R139~R142	T-REC25VJ222	P	808-930200-078-A	P	14
168	R74~R76	ERG2ANJ102U	P	808-930461-278-A	P	3
169	R61~R64, R149~R151, R154,R155,R157~R162 R55,R56	ERG2ANJ202U	P	808-930461-272-A	P	17
172	R128,R130,R132 R134~R138	ERG2ANJ242U	P	808-930461-279-A	P	8
176	R88	T-REC25VJ101	P	808-930200-040-A	P	1
179	CN20	HR-07S NATURAL	P	808-955247-571-A	P	1

REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	

PKG REV [illegible]

DWG ABBR	
PKG LOCATION	
PKG NAME	
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
上				

G9WDBA PKG

E136-100722-001-A

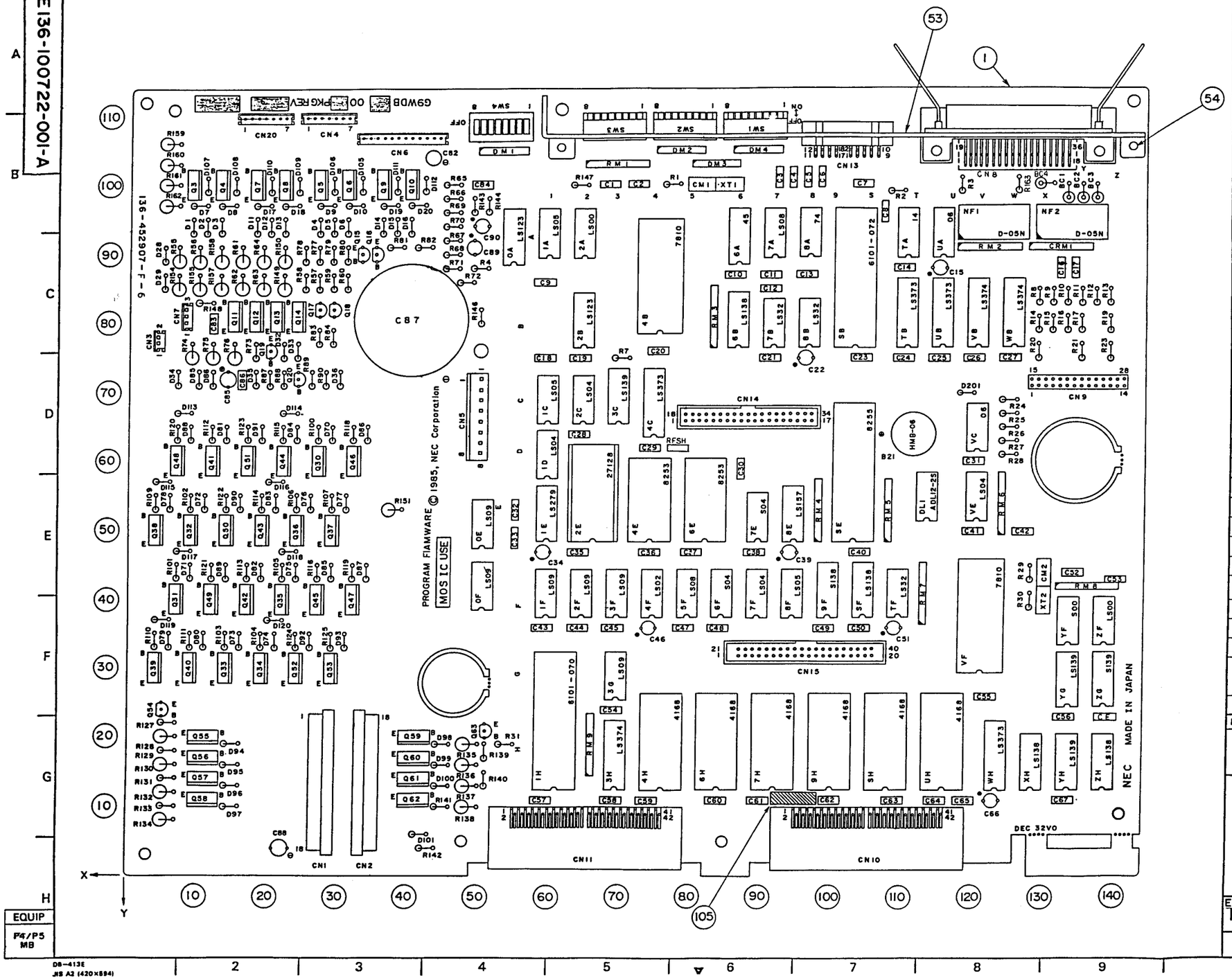
NEC SHT /

EQUIP
P4/P5
MB.

DB-413E
JIS A2 (420×594)

E136-100722-001-A

REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	—



PKG REV [illegible]

DWG ABBR	
PKG LOCATION	
PKG NAME	
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
上	渡辺			

G9WDBA PKG

E136-100722-001-A

NEC

SHT 3/3

EQUIP F4/P5 MB

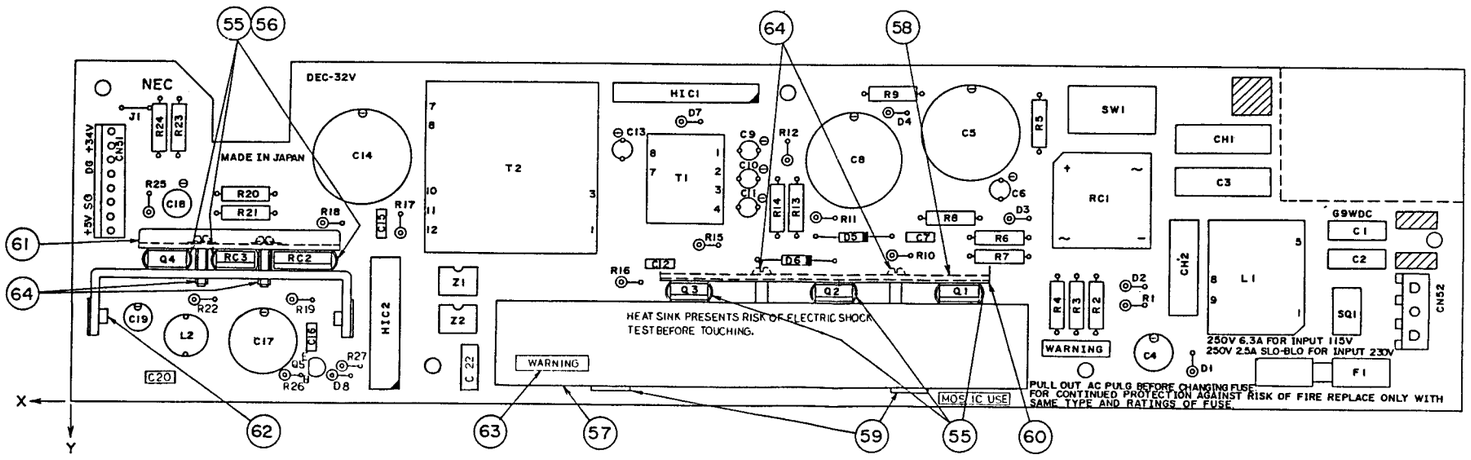
DB-413E JIS A2 (420×594)

E136-100722-002-A

NO	DESIG-NATION	PART NAME	A	PART NUMBER	U	QTY
1		G9WDC PWB	P	136-452908-0-5	P	1
2	Q2,Q3	FET450V4A	P	808-922004-001-A	P	2
3	Q1	2SC2335	P	808-920223-351-A	P	1
4	Q4	2SD1308	P	808-922015-001-A	P	1
66	Q5	2SC2719-T	P	802-250030-002-0		1
5	HIC1	YD-030	P	802-180263-001-A	P	1
6	HIC2	H-01PW	P	808-912318-001-A	P	1
7	Z1,Z2	PHOTOCOUPLER, PC-002	P	808-927029-002-A	P	2
8	D1,D2	GD600V1A	P	802-210020-101-A	P	2
9	D3,D4,D8	RD43EB-TB	P	802-230020-039-0	P	3
10	D5,D6	F114D	P	808-923330-011-A	P	2
11	D7	RD13EB-TB	P	802-230020-025-0	P	1
12	RC1	BR400V6A	P	808-924112-001-A	P	1
13	RC2	FRD16A04	P	802-220064-001-A	P	1
14	RC3	SBD4A06	P	802-220065-001-A	P	1
67	R26,R27	T-REC25VJ681	P	808-930200-060-A	P	2
15	R1	T-REC50VJ105	P	808-930200-370-A	P	1
16	R2,R3 R4,R8	ERG2SJ152P	P	802-310051-308-A	P	4
17	R5,R9	ERG2SJ563P	P	802-310051-310-A	P	2
18	R6,R7	ERG2SJ303P	P	802-310051-309-A	P	2
19	R10,R16	ERG1SJ101U	P	802-310051-123-A	P	2

NO	DESIG-NATION	PART NAME	A	PART NUMBER	U	QTY
20	R11	T-REC25VJ470	P	808-930200-026-A	P	1
21	R12	T-REC25VJ222	P	808-930200-078-A	P	1
22	R13,R14	ERX2SJR36P	P	802-310051-307-A	P	2
23	R15,R25	T-REC50VJ101	P	808-930200-240-A	P	2
24	R17	ERG1SJ392U	P	802-310051-122-A	P	1
25	R19	T-REC25VJ100	P	808-930200-010-A	P	1
26	R20,R21	ERX2SJR27P	P	802-310051-306-A	P	2
27	R22	T-REC25VJ102	P	808-930200-070-A	P	1
28	R23,R24	ERG2SJ202P	P	802-310051-301-A	P	2
29	R18	ERG1SJ300U	P	802-310051-126-A	P	1
30	C1,C2	DE7150F472MVA1	P	808-935562-021-A	P	2
31	C3	ECQ-E2A-224MW	P	808-935163-020-A	P	1
32	C4	CE450V2.2μF	P	808-935394-021-A	P	1
33	C5,C8	CEM200V560μF	P	808-935394-073-A	P	2
34	C6,C10,C11	T-CE50V 1μF	P	808-935300-021-A	P	3
35	C7,C12	T-CK45B471K500V	P	808-935504-101-A	P	2
36	C9	T-CE100V-1μF	P	808-935300-041-A	P	1
37	C13	T-CE50VR47μF	P	808-935300-023-A	P	1
38	C14	CEM50V5600μF	P	808-9353 4-271-A	P	1
39	C15,C16	T-CK45B102K500V	P	808-935504-103-A	P	2
40	C17	CE16V4700μF	P	808-935394-005-A	P	1
41	C18	T-CE10V220μF	P	808-935300-062-A	P	1
42	C19	T-CE16V100μF	P	808-935300-082-A	P	1
43	C20	T-DMY21H103K	P	808-935101-001-A	P	1
68	C21	T-CEK50V22μ	P	808-935300-101-A	P	1

NO	DESIG-NATION	PART NAME	A	PART NUMBER	U	QTY
44	CH1,CH2	POWER THERMISTOR 6D-22	P	808-927003-001-A	P	2
45	SQ1	VARISTOR VR470V14φ	P	808-926201-001-A	P	1
46	L1	CHOKE COIL, L60288	P	808-940602-008-B	P	1
47	L2	CHOKE COIL, L60288	P	808-940602-006-B	P	1
48	T1	TFM10834	P	808-940328-005-A	P	1
49	T2	TRANSFORMER, TFM 90108	P		P	1
70	C22	CK45E2GA332MYASE	P	808-935562-022-A	P	1
50	SW1	S101-03-1-MS-02-QA	P	808-950368-001-A	P	1
51	CN51	CONNECTOR, VR-08	P	808-955247-808-A	P	1
52	CN52	CONNECTOR, 350429-1	P	808-955140-348-A	P	1
53	F1	FUSE, FF 250V 6.3A	P	808-960321-006-A	P	1
54	F1	FUSE CLIP F-208	P	808-960304-003-A	P	2
55		INSULATOR A	P	136-783422-A	P	5
56		INSULATOR B	P	136-783423-A	P	1
57		HEAT SINK	P	136-782733-A	P	1
58		PRESSURE PLATE	P	136-781986-001-A	P	1
59		HOLDER PLATE	P	136-781985-001-A	P	2
60		PRESSURE PLATE U	P	136-782112-A	P	1
61		PRESSURE PLATE L	P	136-781983-A	P	1
62		HEAT SINK L Assy	P	136-782113-001-A	P	1
63						
64		PL-CP1MS3x12x15BF	P	805-300003-012-0	P	4
65	J1	TINNING WIRE, 0.65	P	804-171001-065-A	M	0.02



REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	—

PKG REV [illegible]

DWG ABBR	
PKG LOCATION	
PKG NAME	
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
上	渡辺			86.1.16

G9WDCA PKG

E136-100722-002-A

NEC SHT 1/3

EQUIP P4/P5

DB-413E

E136-100722-002-A

NO	DESIG-NATION	PART NAME	A	PART NUMBER	U	QTY
1		G9WDC PWB	P	136-452908-E-8	P	1
2	Q2,Q3	FET450V4A	P	808-922004-001-A	P	2
3	Q1	2SC2335	P	808-920223-351-A	P	1
4	Q4	2SD1308	P	808-922015-001-A	P	1
66	Q5	2SC2719-T	P	802-250030-002-0	P	1
5	HIC1	YD-030	P	802-180263-001-A	P	1
6	HIC2	H-01PW	P	808-912318-001-A	P	1
7	Z1,Z2	PHOTO COUPLER, PC-002	P	808-927029-002-A	P	2
8	D1,D2	GD600V1A	P	802-210020-101-A	P	2
9	D3,D4,D8	RD43EB-TB	P	802-230020-039-0	P	3
10	D5,D6	F114D	P	808-923330-011-A	P	2
11	D7	RD13EB-TB	P	802-230020-025-0	P	1
12	RC1	BR400V6A	P	808-924112-001-A	P	1
13	RC2	FRD16A04	P	802-220064-001-A	P	1
14	RC3	SBD4A06	P	802-220065-001-A	P	1
67	R26,R27	T-REC25VJ681	P	808-930200-060-A	P	1
15	R1	T-REC50VJ105	P	808-930200-370-A	P	1
16	R2,R3 R4,R8	ERG2SJ152P	P	802-310051-308-A	P	4
17	R5,R9	ERG2SJ563P	P	802-310051-310-A	P	2
18	R6,R7	ERG2SJ303P	P	802-310051-309-A	P	2
19	R10,R16	ERG1SJ101U	P	802-310051-123-A	P	2

NO	DESIG-NATION	PART NAME	A	PART NUMBER	U	QTY
20	R11	T-REC25VJ470	P	808-930200-026-A	P	1
21	R12	T-REC25VJ222	P	808-930200-078-A	P	1
22	R13,R14	ERX2SJR36P	P	802-310051-307-A	P	2
23	R15,R25	T-REC50VJ101	P	808-930200-240-A	P	2
24	R17	ERG1SJ392U	P	802-310051-122-A	P	1
25	R19	T-REC25VJ100	P	808-930200-010-A	P	1
26	R20,R21	ERX2SJR27P	P	802-310051-306-A	P	2
27	R22	T-REC25VJ102	P	808-930200-070-A	P	1
28	R23,R24	ERG2SJ202P	P	802-310051-301-A	P	2
29	R18	ERG1SJ300U	P	802-310051-126-A	P	1
30	C1,C2	DE7150F472MVA1	P	808-935562-021-A	P	2
31	C3	ECQ-E2A-105MW	P	808-935163-022-A	P	1
32	C4	CE450V2.2μF	P	808-935394-021-A	P	1
33	C5,C8	CEM200V560μF	P	808-935394-073-A	P	2
34	C6,C10,C11	T-CE50V 1μF	P	808-935300-021-A	P	3
35	C7,C12	T-CK45B471K500V	P	808-935504-101-A	P	2
36	C9	T-CE100V-1μF	P	808-935300-041-A	P	1
37	C13	T-CE50VR47μF	P	808-935300-023-A	P	1
38	C14	CEM50V5600μF	P	808-9353 4-271-A	P	1
39	C15,C16	T-CK45BI02K500V	P	808-935504-103-A	P	2
40	C17	CE16V4700μF	P	808-935394-005-A	P	1
41	C18	T-CE10V220μF	P	808-935300-062-A	P	1
42	C19	T-CE16V100μF	P	808-935300-082-A	P	1
43	C20	T-DMY21H103K	P	808-935101-001-A	P	1
68	C21	T-CEK50V22μF	P	808-935300-101-A	P	1

NO	DESIG-NATION	PART NAME	A	PART NUMBER	U	QTY
44	CH1,CH2	POWER THERMISTER 6D-22	P	808-927003-001-A	P	2
69	R28	RTL1C3 300KΩ±1%	P	808-935652-001-A	P	1
45	SQ1	VARISTOR VR470V14φ	P	808-926201-001-A	P	1
46	L1	SC-04-200JV	P	808-940205-021-A	P	1
47	L2	CHOKE COIL, L60268	P	808-940602-006-B	P	1
48	T1	TFM10834	P	808-940328-005-A	P	1
49	T2	TRANSFORMER TFM	P	808-940331-0	P	1
70	C22	CK45E2CA56.MASH	P	808-935562-022-A	P	1
50	SW1	S101-03-1-MS-02-QA	P	808-950368-001-A	P	1
51	CN51	CONNECTOR, VR-08	P	808-955247-808-A	P	1
52	CN52	350429-1	P	808-955140-348-A	P	1
71	C101	ECQ-E2A-224	P	808-935163-002-A	P	1
53	F1	FUSE, FF250V 6.3A	P	808-960321-006-A	P	1
54	F1	FUSE CLIP, F-208	P	808-960304-003-A	P	2
55		INSULATOR A	P	136-783422-A	P	5
56		INSULATOR B	P	136-783423-A	P	1
57		HEAT SINK	P	136-782733-A	P	1
58		PRESSURE PLATE	P	136-781986-001-A	P	1
59		HOLDER PLATE	P	136-781985-001-A	P	2
60		PRESSURE PLATE U	P	136-782112-A	P	1
61		PRESSURE PLATE L	P	136-781983-A	P	1
62		HEAT SINK L Assy	P	136-782113-001-A	P	1
63						
64		PL-CPIMS3x12x15BK	P	805-300003-012-0	P	4
65	J1	TINNING WIRE 0.65	P	804-171001-065-A	M	0.02

REV	COMP	DESCRIPTION(SC)	APP
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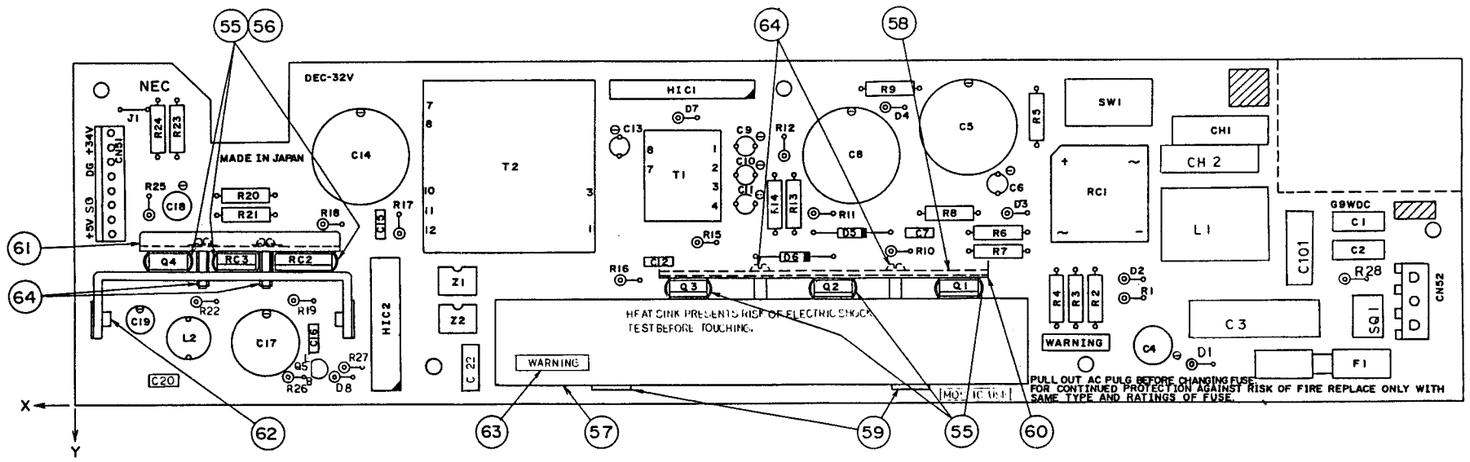


PKG REV 'C10'

DWG ABBR	
PKG LOCATION	
PKG NAME	
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
上	渡辺			

G9WDCA PKG

E136-100722-C02-A

NEC SHT 2/3

EQUIP P4/P5

DB-413E JIS A2 (420×594)

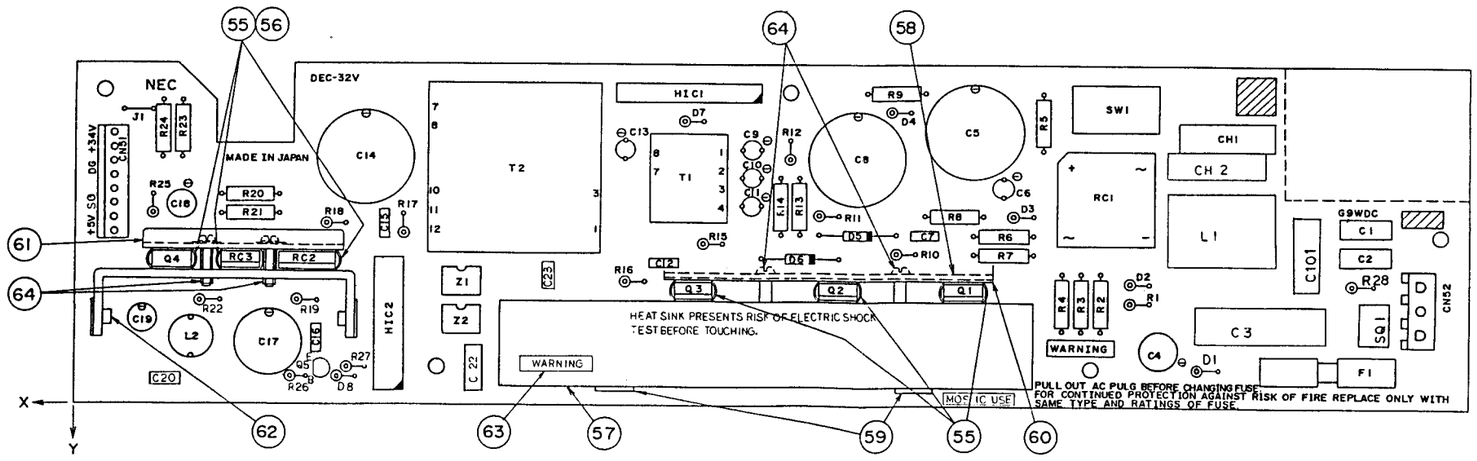
E136-100722-002-A

NO	DESIG-NATION	PART NAME	A	PART NUMBER	U	QTY
1		G9WDC PWB	P	136-452908-F-9	P	1
2	Q2,Q3	FET450V4A	P	808-922004-001-A	P	2
3	Q1	2SC2335	P	808-920223-351-A	P	1
4	Q4	2SD1308	P	808-922015-001-A	P	1
66	Q5	2SC2719-T	P	802-250030-002-0	P	1
5	HIC1	YD-030	P	802-180263-001-A	P	1
6	HIC2	H-01PW	P	808-912318-001-A	P	1
7	Z1,Z2	PHOTOCOUPLER,PC-002	P	808-927029-002-A	P	2
8	D1,D2	GD600V1A	P	802-210020-101-A	P	2
9	D3,D4,D6	RD43EB-TB	P	802-230020-039-0	P	3
10	D5,D6	F114D	P	808-923330-011-A	P	2
11	D7	RD13EB-TB	P	802-230020-025-0	P	1
72	C23	T-CK45B102K50V	P	802-935504-006-A	P	1
12	RC1	BR400V6A	P	808-924112-001-A	P	1
13	RC2	FRD16A04	P	802-220064-001-A	P	1
14	RC3	SBD4A06	P	802-220065-001-A	P	1
67	R26,R27	T-REC25VJ681	P	808-930200-060-A	P	1
15	R1	T-REC50VJ105	P	808-930200-370-A	P	1
16	R2,R3 R4,R8	ERG2SJ152P	P	802-310051-308-A	P	4
17	R5,R9	ERG2SJ563P	P	802-310051-310-A	P	2
18	R6,R7	ERG2SJ303P	P	802-310051-309-A	P	2
19	R10,R16	ERG1SJ101U	P	802-310051-123-A	P	2

NO	DESIG-NATION	PART NAME	A	PART NUMBER	U	QTY
20	R11	T-REC25VJ470	P	808-930200-026-A	P	1
21	R12	T-REC25VJ222	P	808-930200-078-A	P	1
22	R13,R14	ERX2SJR36P	P	802-310051-307-A	P	2
23	R15,R25	T-REC50VJ101	P	808-930200-240-A	P	2
24	R17	ERG1SJ392U	P	802-310051-122-A	P	1
25	R19	T-REC25VJ100	P	808-930200-010-A	P	1
26	R20,R21	ERX2SJR27P	P	802-310051-306-A	P	2
27	R22	T-REC25VJ102	P	808-930200-070-A	P	1
28	R23,R24	ERG25J202P	P	802-310051-301-A	P	2
29	R18	ERG1SJ300U	P	802-310051-126-A	P	1
30	C1,C2	DE7150F472MVA1	P	808-935562-021-A	P	2
31	C3	ECQ-E2A-105MW	P	808-935163-022-A	P	1
32	C4	CE450V2.2μF	P	808-935394-021-A	P	1
33	C5,C8	CEM200V560μF	P	808-935394-073-A	P	2
34	C6,C10,C11	T-CE50V 1μF	P	808-935300-021-A	P	3
35	C7,C12	T-CK45B471K500V	P	808-935504-101-A	P	2
36	C9	T-CE100V-μF	P	808-935300-041-A	P	1
37	C13	T-CE50VR47μF	P	808-935300-023-A	P	1
38	C14	CEM50V5600μF	P	808-9353 4-271-A	P	1
39	C15,C16	T-CK45B102K500V	P	808-935504-103-A	P	2
40	C17	CE16V4700μF	P	808-935394-005-A	P	1
41	C18	T-CE10V220μF	P	808-935300-062-A	P	1
42	C19	T-CE16V100μF	P	808-935300-082-A	P	1
43	C20	T-DMY21H103K	P	808-935101-001-A	P	1
68	C21	T-CEK50V22μF	P	808-935300-101-A	P	1

NO	DESIG-NATION	PART NAME	A	PART NUMBER	U	QTY
44	CH1,CH2	POWER THERMISTOR, 6D-22	P	808-927003-001-A	P	2
69	R28	RTL1C3 300KΩ FU	P	808-930363-001-A	P	1
45	SQ1	VARISTOR VR470V14φ	P	808-926201-001-A	P	1
46	L1	SC-04-200JV	P	808-940205-021-A	P	1
47	L2	CHOKE COIL, L6026B	P	808-940602-006-B	P	1
48	T1	TFM10834	P	808-940328-005-A	P	1
49	T2	TRANSFORMER TFM90103	P	808-940331-0	P	1
70	C22	CK45E2GA332MYASE	P	808-935562-022-A	P	1
50	SW1	S101-03-1-MS-02-QA	P	808-950368-001-A	P	1
51	CN51	CONNECTOR, VR-08	P	808-955247-808-A	P	1
52	CN52	350429-1	P	808-955140-348-A	P	1
71	C101	ECQ-E2A-224MW	P	808-935163-020-A	P	1
53	F1	FUSE, FF250V 6.3A	P	808-960321-006-A	P	1
54	F1	FUSE CLIP, F-208	P	808-960304-003-A	P	2
55		INSULATOR A	P	136-783422-A	P	5
56		INSULATOR B	P	136-783423-A	P	1
57		HEAT SINK	P	136-782733-A	P	1
58		PRESSURE PLATE	P	136-781986-001-A	P	1
59		HOLDER PLATE	P	136-781985-001-A	P	2
60		PRESSURE PLATE U	P	136-782112-A	P	1
61		PRESSURE PLATE L	P	136-781983-A	P	1
62		HEAT SINK L Assy	P	136-782113-001-A	P	1
63						
64		PL-CPIMS3x12x15BF	P	805-300003-012-0	P	4
65	J1	TINNING WIRE, 0.65	P	804-171001-065-A	M	0.02

REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	—



PKG REV [illegible]

DWG ABBR	
PKG LOCATION	
PKG NAME	
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE

G9WDCA PKG

E136-100722-002-A

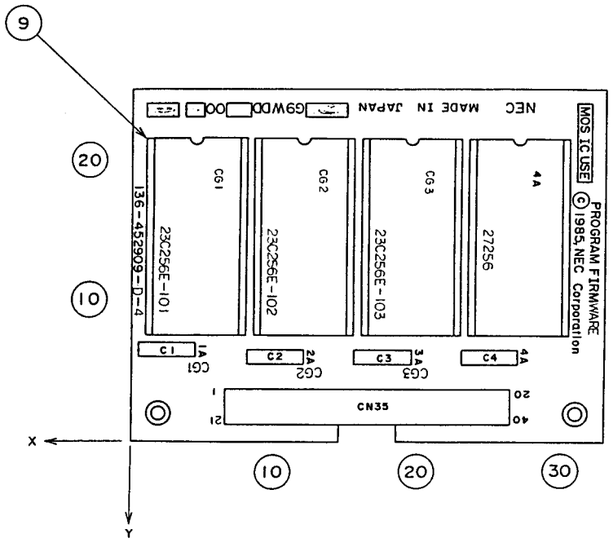
NEC SHT 3/3

EQUIP P4/P5

DB-413E
JIS A2 (420×594)

E136-100722-003-A

NO	DESIGNATION	PART NAME	A	PART NUMBER	U	QTY
1		G9WDD PWB	P	136-452909-D	P	1
2						
3	4A	27256(1) REWORK	A	136-201632-A	S	1
4						
5	C1 C2 C3 C4	T-MC02F1H104Z	P	808-935500-002-A	P	4
6						
7	CN35	FHA-40S0	P	808-955223-640-A	P	1
8						
9		28P-IC SOCKETSn	P	808-955157-128-A	P	4
10						
11		PINWRITER P5 MODEL LABEL	P	136-703214-001-A	P	1
12	CG1	23C256E-101	P	802-140212-101-A	P	1
13	CG2	23C256E-102	P	802-140212-102-A	P	1
14	CG3	23C256E-103	P	802-140212-103-A	P	1



REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	——

PKG REV FAIL

DWG ABBR	
PKG LOCATION	
PKG NAME	
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
11) 上	渡辺清			発行 82.1.18 Rev=0A

G9WDDL PKG

E136-100722-003-A

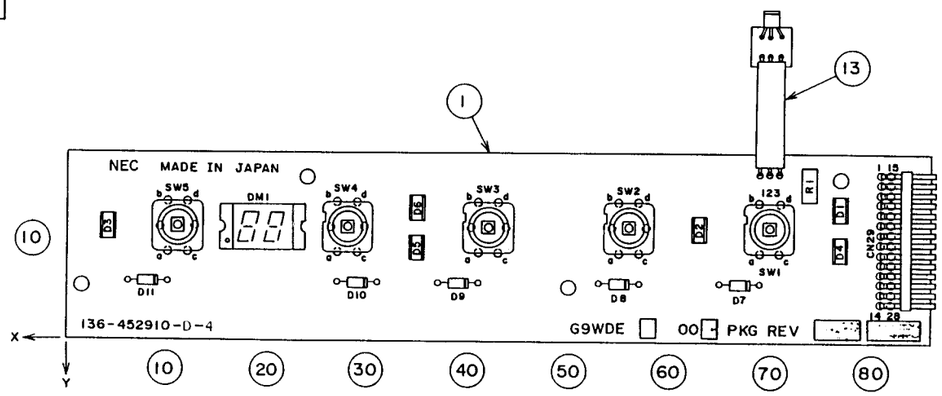
NEC SHT 1/1

EQUIP: P4/P5 ROM

DB-413E
JIS A2 (420×594)

E136-100722-004-A

NO	DESIGNATION	PART NAME	A	PART NUMBER	U	QTY
1		G9WDE PWB	P	136-452910-D	P	1
2						
3	DM1	GL-7N202	P	802-810072-001-A	P	1
4	CN29	PHD-328	P	808-955244-328-A	P	1
5						
6	SW1~5	KHC10901	P	808-950351-005-A	P	5
7						
8	D4	LEDSR632D	P	808-925001-001-A	P	1
9	D3,D5	LEDSY432D	P	808-926503-001-A	P	2
10	D1,D2,D6	LEDSG232D	P	808-925000-001-A	P	3
11	D7~D11	DIODE,1S953	P	808-923009-531-A	P	5
12	R1	T-R:F07Q151G	P	808-930300-003-A	P	1
13		COVER SWITCH CABLE Assy	A	136-770722-A	P	1
14		16PIC SOCKET SN	P	808-955157-116-A	P	1
15		SHIM	P	136-772878-A	P	1
16						
17						



REV	COMP	DESCRIPTION (SC)	APP
1	A	1986.12.22	——

PKG REV [05]

DWG ABBR	
PKG LOCATION	
PKG NAME	
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
(1) 上	渡辺			発行 Dec.1.16 初=0A

G9WDEA PKG

E 136-100722-004-A

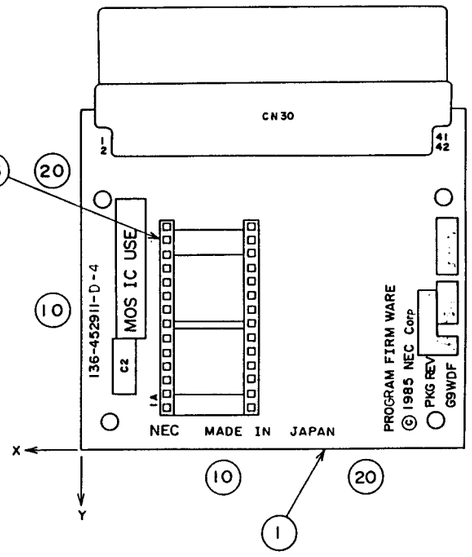
NEC SHT 1/1

EQUIP
P4/P5
OPP

DB-413E
JIS A2 (420×594)

E136-100722-005-A

NO	DESIGNATION	PART NAME	A	PART NUMBER	U	QTY
1		G9WDF PWB	P	136-452911-D	P	1
2						
3						
4						
5						
6						
7						
8						
9						
10						
11	C2	T-MC02F1H104Z	P	808-935500-002-A	P	1
12						
13						
14						
15	CN30	FONT-42P	P	808-955248-001-A	P	1
16		28P IC SOCKET Sn	P	808-955157-128-A	P	1
17						
18						
19						
20						
21						



REV	COMP	DESCRIPTION (SC)	APP
1	A	1986.12.22	—

PKG REV [illegible]

DWG ABBR	
PKG LOCATION	
PKG NAME	
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
川上	渡辺			発行 87.7.16 Rev-0A

G9WDFA PKG

E136-100722-005-A

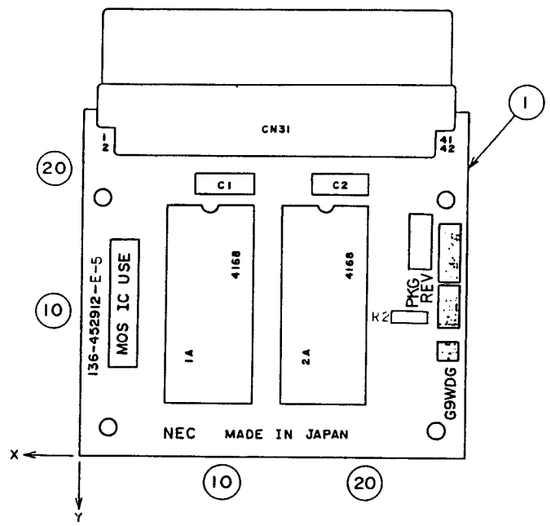
NEC SHT 1/1

EQUIP
P4/P5 FONT

08-413E
JIS A2 (420×594)

E136-100722-006-A

NO	DESIGNATION	PART NAME	A	PART NUMBER	U	QTY
1		G9WDG PWB	P	136-452912-E	P	1
2						
3	1A, 2A	μPD4168C-20	P	802-140115-020-A	P	2
4						
5						
6	R2	T-RF07Q112G	P	808-930300-059-A	P	1
7						
8	C1, C2	T-MC02F1H104Z	P	808-935500-002-A	P	2
9						
10						
11						
12	CN31	FONT-42P	P	808-955248-001-A	P	1
13						
14						
15						
16						
17						
18						
19						
20						
21						



REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	—

PKG REV "B5"

DWG ABBR	
PKG LOCATION	
PKG NAME	
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
上	渡辺			終了

G9WDGA PKG

E 136-100722-006-A

NEC SHT 1/1

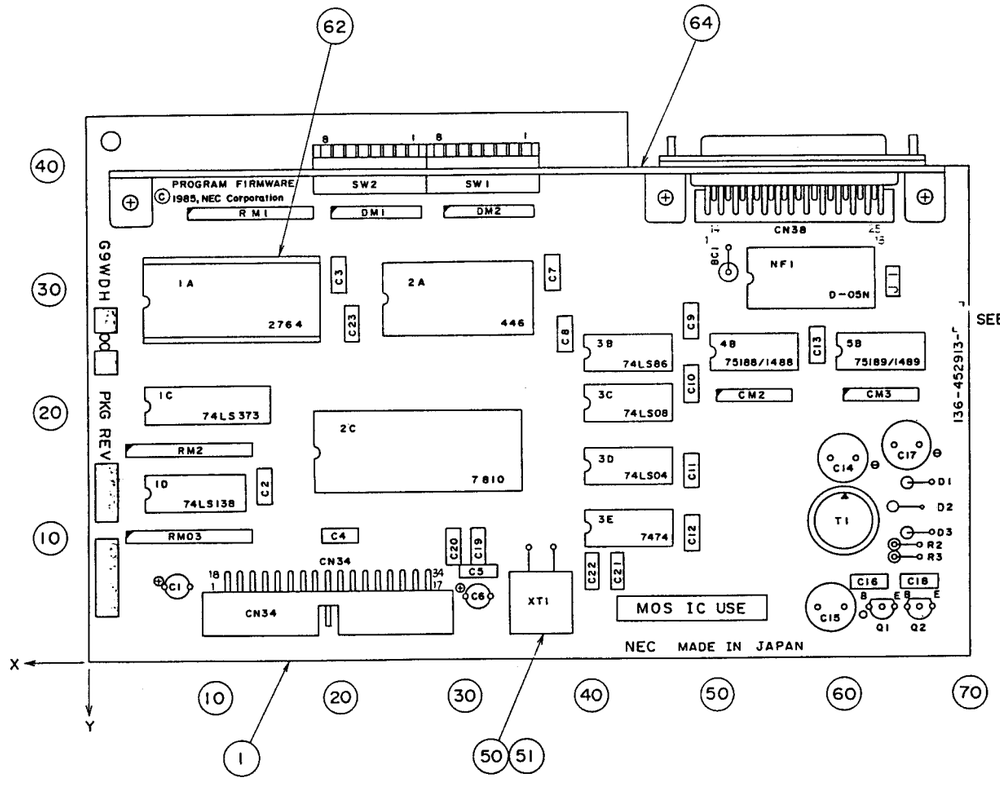
EQUIP
P4/P5
RAM

DB-413E
JIS A2 (420×594)

E136-100722-007-A

NO	DESIGNATION	PART NAME	A	PART NUMBER	U	QTY
1		G9WDH PWB	P	136-452913-D	P	1
2						
3	3D	74LS04 IC	P	808-907004-001-A	P	1
4	3C	74LS08 IC	P	808-907008-001-A	P	1
5	3E	7474 IC	P	808-905074-001-A	P	1
6	3B	74LS86 IC	P	808-907086-001-A	P	1
7	1D	74LS138 IC	P	808-907138-001-A	P	1
8	1C	74LS373 IC	P	808-907373-001-A	P	1
9	4B	75188/1488	P	808-913412-001-A	P	1
10	5B	75189/1489	P	808-913413-001-A	P	1
11	2A	446 (200)	P	808-919340-200-A	P	1
12						
13	2C	μPD7810G36	P	808-919404-001-A	P	1
14						
15	1A	2764 (1) REWORK	A	136-201075-A	S	1
16						
17	Q1, Q2	2SC2719-T	P	802-250030-002-D	P	2
18						
19	D1	RD15EB	P	808-923504-225-A	P	1
20	D2, D3	1S954-T8	P	802-210018-001-D	P	2
21						
22	DM1, DM2	μPA54H	P	808-910000-544-A	P	2
23						
24						
25	R2	T-REC25VJ183	P	808-930200-116-A	P	1
26	R3	T-REC25VJ221	P	808-930200-048-A	P	1
27						
28	RM1~RM4	DNG-1510L	P	808-930391-001-A	P	4
29	C21, C22, C23	T-CK45B471K50V	P	808-935504-002-A	P	3
30	C1, C6	TPD1C100M-X	P	808-935400-101-A	P	2
31	C2, C3, C4	T-BC45BC104Z12V	P	808-935900-101-A	P	6
	C7~C8, C11~C13					
33	C5	T-CK45B102K50V	P	808-935504-006-A	P	1
34	C15	T-CEM10V330μF	P	802-410067-019-A	P	1
35	C14, C17	T-CEM35V100μF	P	802-410067-058-A	P	2
36	C16, C18	T-MC02CH1H122K	P	808-935501-023-A	P	2
37	C19, C20	CC45ICH1100DY-T	P	802-410058-101-A	P	2
38						
39	CM2	IHC-4-331KA	P	808-935569-001-A	P	1
40	CM3	IHC-4-222KA	P	808-935569-002-A	P	1
41						
42	C10, C9	T-MC02FIH104Z	P	808-935500-002-A	P	2
43	NF1	D-05N	P	808-970212-001-A	P	1
44						
45	SW1, SW2	76PSB08S	P	808-950363-008-A	P	2
46						
47						
48	BC1	8L02RN1-R62T2	P	808-940802-001-A	P	1
49						
50	XT1	HC-43/U 7.3728MHz	P	808-970104-007-A	P	1
51		TAPE No.4262	P	808-835043-002-A	P	1
52	T1	TRANSFORMER, TX-38 DC-DC	P	808-940329-001-A	P	1
53						
54	J1	TERMINAL-STRIP, Z-MB-3P	P	808-955125-022-A	P	1
55		SHORT-CIRCUIT PLUG Z-12P	P	808-955125-011-A	P	1
56						
57		SUPPORT COVER	P	136-774349-A	P	1
58						
59						
60	CN34	FHB34HO	P	808-955223-834-A	P	1
61						
62	(1A)	28P IC SOCKET	P	808-955157-128-A	P	1
63						

NO	DESIGNATION	PART NAME	A	PART NUMBER	U	QTY
64		SERIAL CONNECTOR PLATE Assy	A	136-770708-A		1
65						
66		RIVET BSP-34	P	803-010048-002-D	P	3
67						
68						
69						
70						
71						
72						
73						



NOTE: IF PWB IS C-3, ASSIGNED PKG REV D4B.
IF PWB IS D-4, ASSIGNED PKG REV D5.

REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	

DWG ABBR	
PKG LOCATION	
PKG NAME	
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
上	渡辺			86.1.16

G9WDHA PKG

E136-100722-007-A

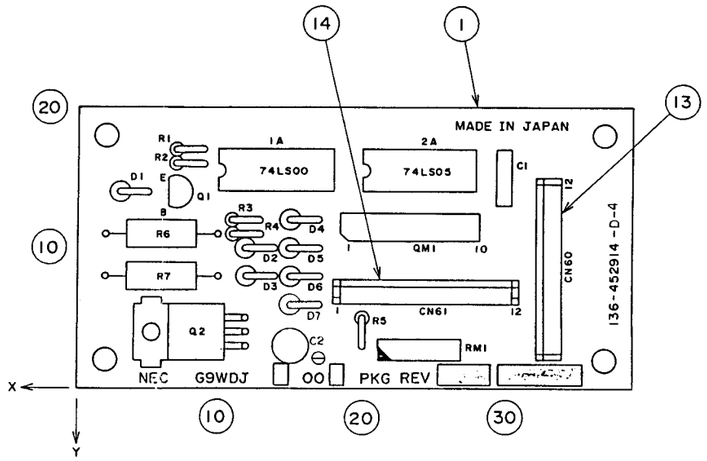
NEC SHT 1/1

EQUIP
P4/P5
RS-232C

08-413E
JIS A2 (420×594)

E136-100722-008-A

NO	DESIGNATION	PART NAME	A	PART NUMBER	U	QTY
1		G9WDJ PWB	P	136-452914-D	P	1
2	1A	74LS00	P	808-907000-001-A	P	1
3	2A	74LS05	P	808-907005-001-A	P	1
4	Q1	2SC2719-T	P	802-250030-002-0	P	1
5	QM1	STA403A	P	808-922008-008-A	P	1
6	D1~D6	T-GDA200V1A	P	802-210019-101-A	P	6
7	Q2	2SB601	P	808-920106-011-A	P	1
8	R1~R5	T-REC25VJ103	P	808-930200-110-A	P	5
9	R6,R7	ERG2ANJ470	P	808-930461-071-A	P	2
10	RM1	IHR-1/8-4-152JA	P	808-930349-015-A	P	1
11	C1	T-MC02F1H1042	P	808-935500-002-A	P	1
12	C2	T-CEK50V22μF	P	808-935300-101-A	P	1
13	CN60	HR-12S BLUE	P	808-955247-594-A	P	1
14	CN61	HR-12S NATURAL	P	808-955247-591-A	P	1
15	D7	ZENER DIODE, RD36FB	P	808-923505-315-0	P	1



REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	

PKG REV [B5]

DWG ABBR	
PKG LOCATION	
PKG NAME	
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
(1) 上	渡辺			発行 PC2.1.16 B-0A

G9WDJA PKG

E136-100722-008-A

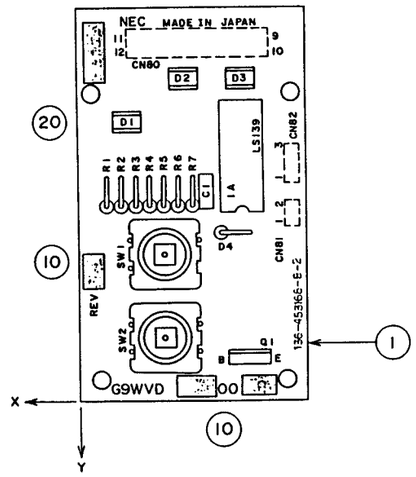
NEC SHT 1/1

EQUIP
P4/P5 COLOR

DB-413E
JIS A2 (420×594)

E136-100722-009-A

NO	DESIGNATION	PART NAME	A	PART NUMBER	U	QTY
1		G9WVD PWB		136-453168-B	P	1
2						
3	1A	74LS139 IC	P	808-907139-001-A	P	1
4						
5	D1,D2,D3	SG232D	P	808-925000-001-A	P	3
6	D4	T-GDA200V1A	P	802-210019-101-A	P	1
7						
8						
9						
10						
11						
12	C1	T-MC02C1H104-M	P	808-935502-051-A	P	1
13						
14	R3,R6,R7	T-REC25VJ151	P	808-930200-044-A	P	3
15	R1,R2,R4	T-REC25VJ102	P	808-930200-070-A	P	3
16	R5	T-REC25VJ153	P	808-930200-114-A	P	1
17						
18	Q1	2SD1286	P	808-922017-001-A	P	1
19						
20	SW1,SW2	KHC10901	P	808-950351-005-A	P	2
21	CN80	HIF3FB-20PA-2.54DSA	P	808-955223-520-A	P	1
22	CN81	HR-02S NATURAL	P	808-955247-521-A	P	1
23	CN82	HR-03S BLUE	P	808-955247-534-A	P	1



REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	

PKG REV「B」

DWG ABBR	
PKG LOCATION	
PKG NAME	
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
上	渡辺			02.1.16

G9WVDA PKG

E136-100722-009-A

NEC SHT 1/1

EQUIP: P4/P5 28IN

DB-413E
JIS A2 (420×594)

E136-100722-010-A

NO	DESIGNATION	PART NAME	A	PART NUMBER	U	QTY
1		G9WRF PWB	P	136-453103-B	P	1
2	CN70	12FR-BT	P	808-955216-012-A	P	1

REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	——

PKG REV "A2"

DWG ABBR	
PKG LOCATION	
PKG NAME	
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
上	渡辺			発行 62.1.16

G9WRF PKG

E136-100722-010-A

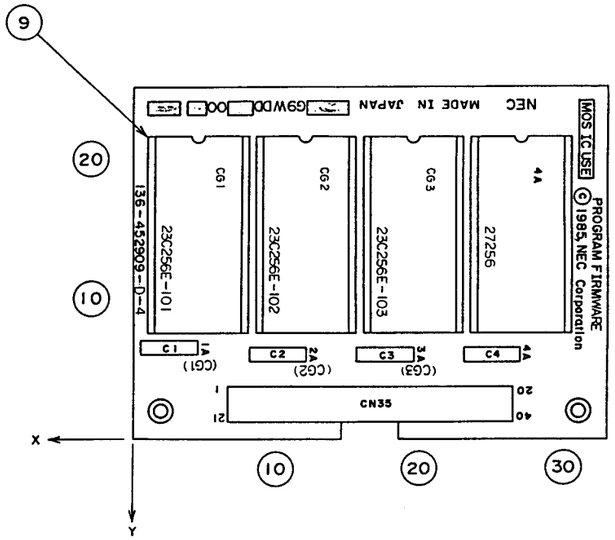
NEC SHT 1/1

EQUIP P4/P5

DB-413E
JIS A2 (420×594)

E136-100722-011-A

NO	DESIGNATION	PART NAME	A	PART NUMBER	U	QTY
1		G9WDD PWB	P	136-452909-D	P	1
2						1
3	4A	27256(1) REWORK G9WDDD	A	136-202213-A	S	1
4						
5	C1 C2 C3 C4	T-MC02F1H 104Z	P	808-935500-002-A	P	4
6						
7	CN35	FHA-40S0	P	808-955223-640-A	P	1
8						
9		28P-IC SOCKET Sn	P	808-955157-128-A	P	4
10						
11		PINWRITER P5 MODEL LABEL (P530)	P	136-703214-002-A	P	1
12	CG1	23C256E-101	P	802-140212-101-A	P	1
13	CG2	23C256E-102	P	802-140212-102-A	P	1
14	CG3	23C256E-103	P	802-140212-103-A	P	1



REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	

PKG REV "A4"

DWG ABBR	
PKG LOCATION	
PKG NAME	

NEXT SPEC

DRAFT	ENG	CHK	APP	ISSUE
11 上	板垣			62.1.16

G9WDDD PKG

E136-100722-011-A

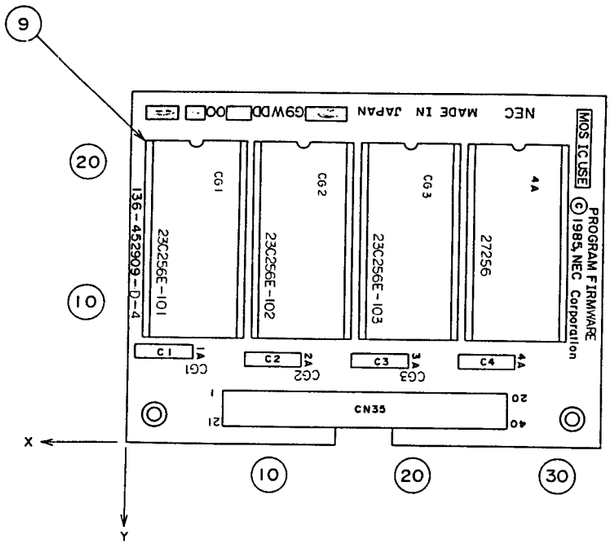
NEC SHT 1/1

EQUIP: P4/P5 ROM

DB-413E
JIS A2 (420×594)

E136-100722-012-A

NO	DESIGNATION	PART NAME	A	PART NUMBER	U	QTY
1		G9WDD PWB	P	136-452909-D	P	1
2						
3	4A	27256(1) REWORK G9WDDM	A	136-202214-A	S	1
4						
5	C1 C2 C3 C4	T-MC02F1H104Z	P	808-935500-002-A	P	4
6						
7	CN35	FHA-40S0	P	808-955223-640-A	P	1
8						
9		28P-IC SOCKETSn	P	808-955157-128-A	P	4
10						
11		PINWRITER P5 MODEL RABEL (P550)	P	136-703214-003-A	P	1
12	CG1	23C256E-101	P	802-140212-101-A	P	1
13	CG2	23C256E-102	P	802-140212-102-A	P	1
14	CG3	23C256E-103	P	802-140212-103-A	P	1



REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	——

PKG REV [illegible]

DWG ABBR	
PKG LOCATION	
PKG NAME	
NEXT SPEC	

DRAFT	ENG	CHK	APP	ISSUE
川上	菱沼			発行 62.1.16 第-0A

G9WDDM PKG

E136-100722-012-A

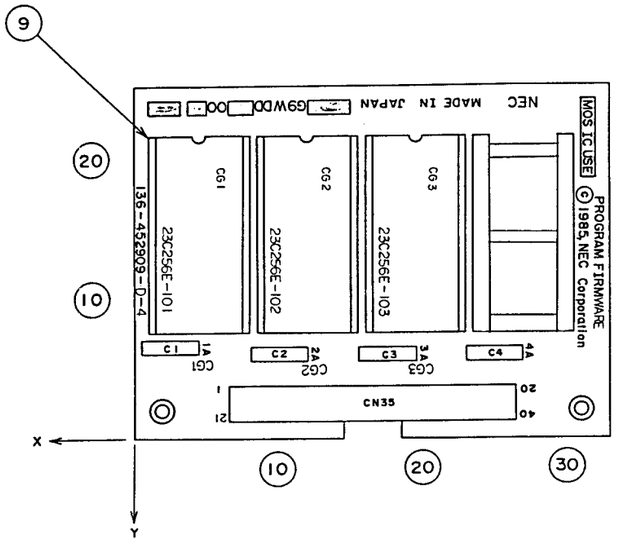
NEC SHT 1/1

EQUIP: P4/P5 ROM

DB-413E
JIS A2 (420×594)

E136-100722-013-A

NO	DESIGNATION	PART NAME	A	PART NUMBER	U	QTY
1		G9WDD PWB	P	136-452909-D	P	1
2						
3						
4						
5	C1 C2 C3 C4	T-MC02F1H 104Z	P	808-935500-002-A	P	4
6						
7	CN35	FHA-40S0	P	808-955223-640-A	P	1
8						
9		28P-IC SOCKET Sn	P	808-955157-128-A	P	4
10						
11						
12	CG1	23C256E-101	P	802-140212-101-A	P	1
13	CG2	23C256E-102	P	802-140212-102-A	P	1
14	CG3	23C256E-103	P	802-140212-103-A	P	1



REV	COMP	DESCRIPTION(SC)	APP
1	A	1986.12.22	

PKG REV [illegible]

DWG ABBR	
PKG LOCATION	
PKG NAME	

NEXT SPEC

DRAFT	ENG	CHK	APP	ISSUE
[illegible] 上	渡辺清			発行 62.1.16 A1-0A

G9WDD[illegible] PKG

E136-100722-013-A

NEC SHT 1/1

EQUIP
P4/P5 ROM

D8-413E
JIS A2 (420×594)